Rio Grande, Sandia Pueblo to Isleta Pueblo, CO, NM, TX Ecosystem Restoration Feasibility Study and Environmental Assessment

Appendix G

Geotechnical Engineering

U. S. Army Corps of Engineers
Albuquerque District



Sandia to Isleta Geotechnical Existing Conditions

Regional and site geology.

Middle Rio Grande Bosque Restoration project boundaries fall within the Albuquerque Basin, along the Rio Grande. The Albuquerque Basin is bounded by the Sandia, Manzanita, and Manzano uplifts on the east, by the Lucero uplift and Puerco platform on the west, and by the southern end of the Naciemento uplift on the northwest. Small volcanoes and fissure flows mark the boundaries at several locations. The age of the rocks in the mountains ranges from Pre-Cambrian to Pennsylvanian. The Sandia Mountains are composed primarily of Precambrian granite overlain by an eastward dipping sedimentary sequence of Pennsylvanian age limestone. The western face of the Sandia Mountains is partially buried by alluvial fans to the west.

The basin is filled with poorly consolidated Cenozoic deposits whose constituents were eroded from the uplands. These sediments have formed coalescing alluvial fans. The sediments that make up the fans are angular to subangular pieces of limestone that are deposited with sands, silts, and clays. The soil also contains large limestone cobbles and boulders. The fans generally grade into finer materials as one moves westward toward the center of the basin. Sediments deposited along the floodplain of the Rio Grande consist primarily of silts and sands with clay and rounded gravels. These sediments have been transported from both the headlands to the north along the Rio Grande and from the Sandia Mountains to the east and were deposited/reworked in the area of Albuquerque. The stratigraphic relationships between different depositional environments are complex and soil/sediment types are not consistent over short ranges.

Previous Geotechnical Explorations.

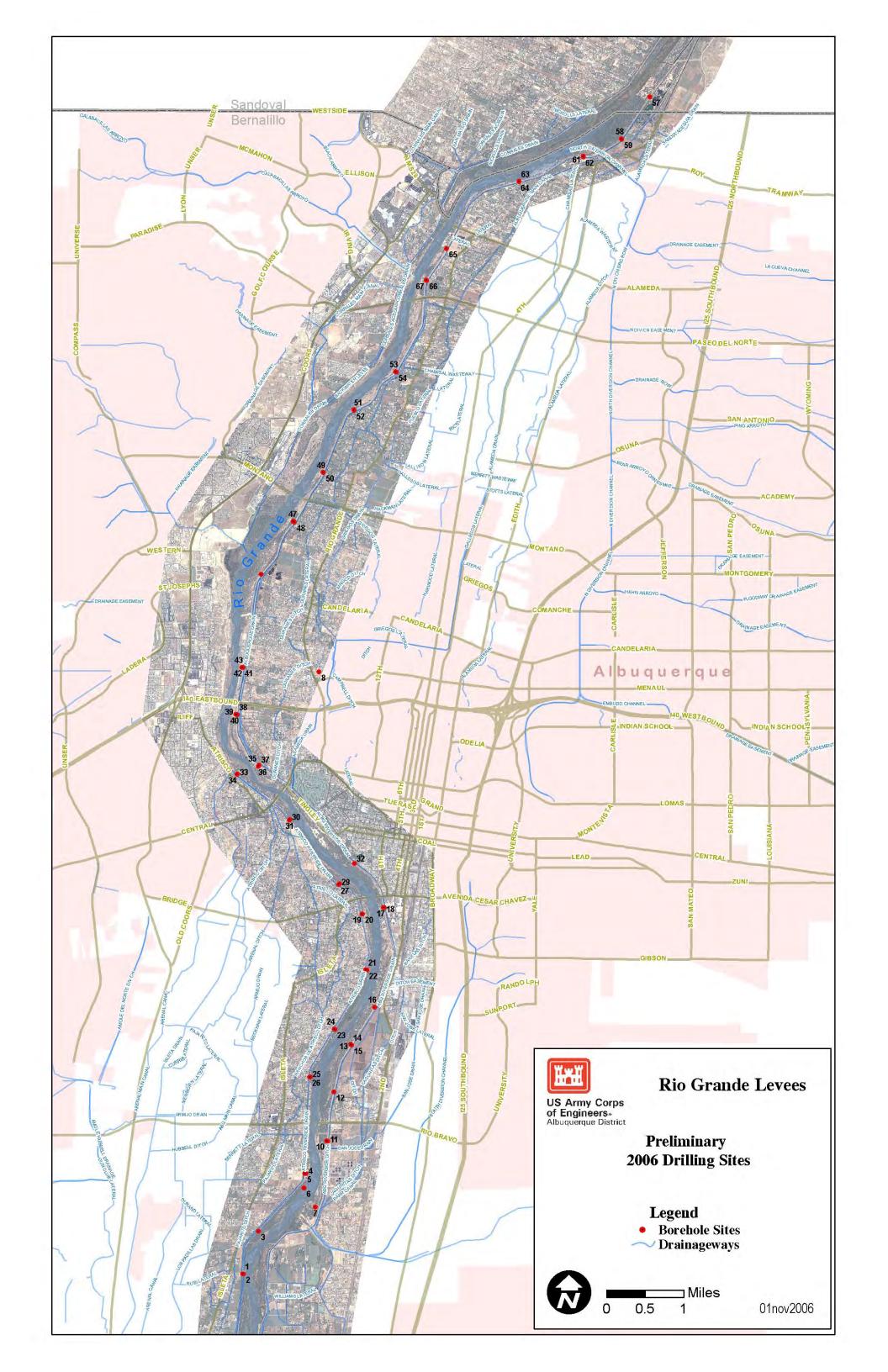
Sixty-three soil borings were advanced between June 8, 2006 and June 23, 2006 along the Phase II and Phase III portions of the Albuquerque levees. These borings lie in the same general region as this project. Locations for soil borings were chosen to give an overall condition of the levee and not isolate the worst locations. Spacing and locations of soil borings attempted to follow guidance presented in ETL 1110-2-569 "Design Guidance for Levee Underseepage". Funding constraints and accessibility issues limited the number soil borings and their locations.

Borings conducted on the crest of the levee were advanced to 30' depth, except for soil borings 8HSA-63, 8HSA-65, and 8HSA-67 which were advanced to 45', 40', and 40' respectively. Soil borings located at the toes of the levee were advanced to 15' depth. Standard Penetration Tests (SPTs) were performed starting from the surface and at 2.5' intervals to the bottom of the borehole. N values were recorded for each SPT, N values were used to determine relative density or consistency of the soils encountered. Soil samples recovered from each SPT, if possible, were sent to Amec's soils laboratory for analysis. Lab analysis performed on soil samples included sieve analysis, Atteberg limits, and gravimetric moisture content. Soil samples were classified based on the Unified Soil Classification System. Boring locations map, boring logs, and

laboratory analysis for the Phase II and Phase III Albuquerque levees are provided as part of this appendix.

Sandia to Isleta Geotechnical Future without Project

Erosion or deposition within the river corridor may change surface soils, however the regional geology and subsurface conditions of the study area will not be greatly impacted by not implementing this project. While the subsurface data was not used in the selection of the TSP, the data is available for future design work.



File No. AQ05BLB01.AM1 8HSA-01 Hole No DRILLING LOG SOUTH PACIFIC ALBUQUERQUE DISTRICT 10. SIZE AND TYPE OF BIT ... 11. DATUM FOR ELEVATION SHOWN (TBM or MSL) ALBUQUERQUE LEVEES .LOCATION (Coordinates or Station) -106.6889203, 34.998675629 12. MANUFACTURER'S DESIGNATION OF DRILL ALBUQUERQUE DISTRICT CME 75 TOTAL NO. OF OVER-UNDISTURBED . HOLE NO. (As shown on drawing title and file number) 8HSA-01 5. NAME OF DRILLER GEOMECHANICS SOUTHWEST INC, JOSE PEREA 15. ELEVATION GROUND WATER 16. DATE HOLE STARTED 8 JUN 06 VERTICAL INCLINED . 7. ELEVATION TOP OF HOLE 7. THICKNESS OF OVERBURDEN N/A > 18, TOTAL CORE RECOVERY FOR BORING 8. DEPTH DRILLED INTO ROCK 19. NAME(S) OF INSPECTOR(S) FELIX R MASCARENO TOTAL DEPTH OF HOLE 16.5' BLOW COUNTS SPT TEST MOIST. CONTENT CLASSIFICATION OF MATERIALS (Description) REMARKS (Drilling time, water loss,depth of weathering, etc., if significant) .8' RECOV. 9.3 SAND, CLAY, BRN, DRY, LOW PI Α 4 SC 19.1 SAND, CLAY, TAN TO BRN, DRY TO DAMP, LOW PI .6' RECOV. 4 7 7 В SC 17.2 5.0' SAND, CLAY, BRN TO DK BRN, DAMP, LOW PI 1.1' RECOV. C 3 2 SC SAND, CLAY, ORGANICS, BRN, SAT, LOW PI 26.0 1.1' RECOV. D 3 2 5 SP-SMWL @ 8' SAND, CLAY, BRN TO TAN, SAT, LOW PI 25.4 10.01 1.2' RECOV. 233 Ε SM21.0 1.4' RECOV. ADD WATER DN HOLE SAND, FN GRAVEL, TAN, NO PI 225 F 17.2 15.0' SAME AS ABOVE AUGER TO 15' SAMPLE TO 16.5' .75' RECOV. G 1 5 6 SM LETTER CLASSIFICATION BASED ON LABORATORY CLASSIFICATION (ASTM D-2487) Note: soil descriptions obtained from samples at depths indicated PROJECT ALBUQUERQUE LEVEES HOLE ENG FORM1836 PREVIOUS EDITIONS ARE OBSOLETE.

File No. AQ05BLB02.AM1 8HSA-02 Hole No DRILLING LOG SOUTH PACIFIC ALBUQUERQUE DISTRICT 10. SIZE AND TYPE OF BIT ... 11. DATUM FOR ELEVATION SHOWN (TBM or MSL) ALBUQUERQUE LEVEES . LOCATION (Coordinates or Station) -106.6887212, 34.99865495 12. MANUFACTURER'S DESIGNATION OF DRILL CME 75 13. TOTAL NO. OF OVER-ALBUQUERQUE DISTRICT UNDISTURBED . HOLE NO. (As shown on drawing title and file number) BURDEN SAMPLES TAKEN 8HSA-02 4. TOTAL NUMBER CORE BOXES . NAME OF DRILLER GEOMECHANICS SOUTHWEST INC, JOSE PEREA 15. ELEVATION GROUND WATER 16. DATE HOLE STARTED COMPLETED 1007 8 JUN 06 VERTICAL INCLINED _ 7. ELEVATION TOP OF HOLE 7. THICKNESS OF OVERBURDEN N/A > 18 TOTAL CORE RECOVERY FOR BORING 8. DEPTH DRILLED INTO ROCK 19. NAME(S) OF INSPECTOR(S) FELIX R MASCARENO TOTAL DEPTH OF HOLE 31.5' MOIST. CONTENT REMARKS (Drilling time, water loss,depth of weathering, etc., if significant) CLASSIFICATION OF MATERIALS (Description) 1.2' RECOV. 3.1 SAND, SILT, TAN - BRN, DRY, NO PI 5 10 13 Α SP-SM 11.4 SAND, SILT, BRN, DAMP, GRAVEL NOTED 1.4' RECOV. 4 7 В SM 9.5 5.0' SAND, CLAY, FN GRAVEL, BRN, DAMP, 1.5' RECOV. 3 6 8 C SC 6.2 SAND, CLAY, BRN - TAN, DAMP TO DRY, LOW PI 1.4' RECOV. D 7 9 10 SC 1.0 10.01 SAND, FN GRAVEL, TAN, DAMP, NO PI 4 1.2' RECOV. Ε SP 6 12.51 10.7 SAND, TAN, DAMP TO MOIST, FN GRAVEL, NO PI 4 9 10 1.3' RECOV. F SP 15.0' 20.3 SAND, FN GRAVEL, TAN TO BRN, MOIST 1.4' RECOV. G WL @ 15 1/2' 2 10 SP 19.7 17.5' SAND, FN GRAVEL, BRN, SAT, NO PI 1.2' RECOV Н ADD WATER DN HOLE SP 4 19.9 20.0 SAME AS ABOVE 1.0' RECOV. 2 5 5 1 SP NO RECOVERY .0' RECOV. 7 J 17 14 25.0' 21.3 SAND, FN GRAVEL, TAN, NO PI .9' RECOV. 4 5 8 Κ SP 16.1 SAME AS ABOVE .75' RECOV. L SP 17.5 30.0' SAND, FN GRAVEL, TAN, NO PI AUGER TO 30' SAMPLE TO 31.5' .75' RECOV. М 686 LETTER CLASSIFICATION BASED ON LABORATORY CLASSIFICATION (ASTM D-2487) Note: soil descriptions obtained from samples at depths indicated PROJECT ALBUQUERQUE LEVEES HOLE ENG FORM1836 PREVIOUS EDITIONS ARE OBSOLETE.

File No. AQ05BLB03.AM1 8HSA-03 Hole No DRILLING LOG SOUTH PACIFIC ALBUQUERQUE DISTRICT 10. SIZE AND TYPE OF BIT 8" HSA 2"SS 11. DATUM FOR ELEVATION SHOWN (TBM or MSL) ALBUQUERQUE LEVEES .LOCATION (Coordinates or Station) -106.6853705, 35.006712572 12. MANUFACTURER'S DESIGNATION OF DRILL CME 75 TOTAL NO. OF OVER-ALBUQUERQUE DISTRICT UNDISTURBED . HOLE NO. (As shown on drawing title and file number) 8HSA-03 5. NAME OF DRILLER GEOMECHANICS SOUTHWEST INC, JOSE PEREA DIRECTION OF HOLE 15. ELEVATION GROUND WATER 16. DATE HOLE STARTED 8 JUN 06 VERTICAL INCLINED 7. ELEVATION TOP OF HOLE 7. THICKNESS OF OVERBURDEN N/A > 18 TOTAL CORE RECOVERY FOR BORING 8. DEPTH DRILLED INTO ROCK 19. NAME(S) OF INSPECTOR(S) FELIX R MASCARENO TOTAL DEPTH OF HOLE 31.5' MOIST. CONTENT CLASSIFICATION OF MATERIALS (Description) (Drilling time, water loss,depth of weathering, etc., if significant) 1.1' RECOV. 8.6 SAND, SILT, TAN, DRY, NO PI 5 9 15 Α 6.3 SAND, GRAVEL, TAN, DAMP, NO PI 1.0' RECOV. В 6 6 5 SP-SM 7.9 SAND, TAN, MOIST, NO PI 1.3' RECOV. С 6 8 12 SP 5.4 SAND, SILT, TAN, MOIST, NO PI .6' RECOV. 2 D SP-SM ż 5.7 10.01 SAND, GRAVEL, ORGANICS, BRN TO TAN, MOIST, NO PI 1.0' RECOV. Ε SP 4.9 12.51 FN SAND, SILT, TAN, MOIST, NO PI 1.0' RECOV. 3 4 5 F SP-SM 2.8 15.0' SAND, SILT, FN GRAVEL, TAN, MOIST, NO PI 1.0' RECOV. 4 4 5 G SP-SM SAND, SILT, FN GRAVEL, TAN, SAT, 7.0 17.5 1.0' RECOV. 3 2 3 WL @ 18' 10.4 20.0 SAME AS ABOVE 1.0' RECOV 4 3 2 1 SP-SMADD WATER DN HOLE 10.4 SAND, GRAVEL TO 11/2", TAN, NO PI .75' RECOV. 24 J 11 11.6 25.0' SAME AS ABOVE, GRAVEL TO 1/2", .8' RECOV. Κ SP-SM 16 13 27.5' 8.7 SAND, FN GRAVEL, TAN, NO PI .8' RECOV. 6 14 12 L SP 30.0' NO RECOVERY AUGER TO 30' SAMPLE TO 31.5' 2 .0' RECOV. М 10 LETTER CLASSIFICATION BASED ON LABORATORY CLASSIFICATION (ASTM D-2487) Note: soil descriptions obtained from samples at depths indicated PROJECT ALBUQUERQUE LEVEES HOLE ENG FORM1836 PREVIOUS EDITIONS ARE OBSOLETE.

File No. AQ05BLB04.AM1 8HSA-04 Hole No. DRILLING LOG SOUTH PACIFIC ALBUQUERQUE DISTRICT 10. SIZE AND TYPE OF BIT 8" HSA 2"SS 11. DATUM FOR ELEVATION SHOWN (TBM or MSL) ALBUQUERQUE LEVEES . LOCATION (Coordinates or Station) -106.6745154, 35.017626427 12. MANUFACTURER'S DESIGNATION OF DRILL . DRILLING AGENCY CME 75 13. TOTAL NO. OF OVER-ALBUQUERQUE DISTRICT UNDISTURBED . HOLE NO. (As shown on drawing title and file number) 8HSA-04 TOTAL NUMBER CORE BOXES 5. NAME OF DRILLER GEOMECHANICS SOUTHWEST INC, JOSE PEREA 15. ELEVATION GROUND WATER 16. DATE HOLE STARTED 8 JUN 06 VERTICAL INCLINED 7. ELEVATION TOP OF HOLE 7. THICKNESS OF OVERBURDEN N/A > 18, TOTAL CORE RECOVERY FOR BORING 8. DEPTH DRILLED INTO ROCK 19. NAME(S) OF INSPECTOR(S) FELIX R MASCARENO TOTAL DEPTH OF HOLE 16.5' BLOW COUNTS SPT TEST MOIST. CONTENT CLASSIFICATION OF MATERIALS (Description) REMARKS (Drilling time, water loss,depth of weathering, etc., if significant) SAND, SILT, ORGANICS, BRN, DAMP, NO PI .5' RECOV. 18.2 Α 4 5 SM SAND, CLAY, ORGANICS, BRN TO TAN, DAMP, LOW PI 13.9 .8' RECOV. 3 3 7 В SM SAND, ORGANICS, TAN, DAMP TO SAT, 16.5 5.0' .9' RECOV. 3 C WL @ 6 1/2' SP 4 13.9 SAND, SILT, TAN, SAT, NO PI 1.1' RECOV. D SP-SM 16.7 10.01 1.0' RECOV. ADD WATER DN HOLE SAND, FN GRAVEL, TAN, NO PI Ε 0 12.51 14.2 SAME AS ABOVE, SILT .9' RECOV. 4 3 5 F SP-SM 13.2 15.0' SAND, SILT, FN GRAVEL, TAN, NO PI AUGER TO 15' SAMPLE TO 16.5' .8' RECOV. 4 5 9 G SP-SM LETTER CLASSIFICATION BASED ON LABORATORY CLASSIFICATION (ASTM D-2487) Note: soil descriptions obtained from samples at depths indicated PROJECT ALBUQUERQUE LEVEES HOLE ENG FORM1836 PREVIOUS EDITIONS ARE OBSOLETE.

File No. AQ05BLB05.AM1 8HSA-05 Hole No DRILLING LOG SOUTH PACIFIC ALBUQUERQUE DISTRICT 10. SIZE AND TYPE OF BIT 8" HSA 2"SS 11. DATUM FOR ELEVATION SHOWN (TBM or MSL) ALBUQUERQUE LEVEES .LOCATION (Coordinates or Station) -106.6747367, 35.017626393 12. MANUFACTURER'S DESIGNATION OF DRILL CME 75 TOTAL NO. OF OVER-ALBUQUERQUE DISTRICT UNDISTURBED . HOLE NO. (As shown on drawing title and file number) 8HSA-05 5. NAME OF DRILLER GEOMECHANICS SOUTHWEST INC, JOSE PEREA DIRECTION OF HOLE 15. ELEVATION GROUND WATER 16. DATE HOLE STARTED VERTICAL ☐ INCLINED 7. ELEVATION TOP OF HOLE 7. THICKNESS OF OVERBURDEN N/A > 18 TOTAL CORE RECOVERY FOR BORING 8. DEPTH DRILLED INTO ROCK 19. NAME(S) OF INSPECTOR(S) FELIX R MASCARENO TOTAL DEPTH OF HOLE 31.5' BLOW COUNTS SPT TEST MOIST. CONTENT REMARKS (Drilling time, water loss,depth of weathering, etc., if significant) CLASSIFICATION OF MATERIALS (Description) d SAND, SILT, GRAVEL, TAN TO BRN, DRY TO DAMP, NO PI .9' RECOV. 2.4 5 Α 68 SM SAND, SILT, FN GRAVEL, TAN, DAMP, 5.3 .95' RECOV. 4 5 6 В SM 5.2 SAME AS ABOVE, GRAVEL TO 1" 1.2' RECOV. 8 12 13 С SM6.8 SAND, SILT, GRAVEL, TAN TO BRN, DAMP, NO PI 1.0' RECOV. D 8 6 7 SM8.5 10.01 FN SAND, SILT, TAN, DAMP, NO PI 3 1.0' RECOV. Ε SM 4 FN SAND, SILT, TAN, MOIST TO SAT, 10.6 1.25' RECOV. SP-SMWL @ 13 1/2' 3 4 5 F FN SAND, SILT, FN GRAVEL, TAN, SAT, NO PI 15.0' 17.2 1.2' RECOV. SP-SMADD WATER DN HOLE 1 2 5 G 17.1 17.5' SAND, SILT, FN GRAVEL, TAN, NO PI 1.4' RECOV. 6 11 SP-SM 10 20.8 20.0 SAME AS ABOVE, GRAVEL TO 1" .6' RECOV. 1 1 SW 4 8 22.5 FN SAND, SILT, TAN, NO PI .8' RECOV. 3 7 J SP-SM 6 25.0' 14.1 SAND, GRAVEL, SILT, BRN, NO PI .4' RECOV. 2 10 9 Κ SM 36.1 CLAY, SAND, BRN, MOD PI .9' RECOV. L 23 CL 30.0' 37.1 SAME AS ABOVE AUGER TO 30' SAMPLE TO 31.5' 1.3' RECOV. М CL LETTER CLASSIFICATION BASED ON LABORATORY CLASSIFICATION (ASTM D-2487) Note: soil descriptions obtained from samples at depths indicated PROJECT ALBUQUERQUE LEVEES HOLE ENG FORM1836 PREVIOUS EDITIONS ARE OBSOLETE.

File No. AQ05BLB06.AM1 8HSA-06 Hole No. DRILLING LOG SOUTH PACIFIC ALBUQUERQUE DISTRICT 10. SIZE AND TYPE OF BIT 8" HSA 2"SS 11. DATUM FOR ELEVATION SHOWN (TBM or MSL) ALBUQUERQUE LEVEES . LOCATION (Coordinates or Station) -106.6749660, 35.017645298 12. MANUFACTURER'S DESIGNATION OF DRILL ALBUQUERQUE DISTRICT CME 75 13. TOTAL NO. OF OVER-DISTURBED UNDISTURBED . HOLE NO. (As shown on drawing title and file number) BURDEN SAMPLES TAKEN 8HSA-06 4. TOTAL NUMBER CORE BOXES NAME OF DRILLER GEOMECHANICS SOUTHWEST INC, JOSE PEREA 15. ELEVATION GROUND WATER 16. DATE HOLE STARTED COMPLETED 8 JUN 06 VERTICAL INCLINED _ _ DEG. FROM VERT. 7. ELEVATION TOP OF HOLE 7. THICKNESS OF OVERBURDEN N/A × 18 TOTAL CORE RECOVERY FOR BORING 8. DEPTH DRILLED INTO ROCK 19. NAME(S) OF INSPECTOR(S) 16.5' FELIX R MASCARENO TOTAL DEPTH OF HOLE BLOW COUNTS SPT TEST e MOIST. CONTENT REMARKS (Drilling time, water loss,depth of weathering, etc., if significant) g CLASSIFICATION OF MATERIALS (Description) SAND, CLAY, ORGANICS, TAN TO BRN, DRY TO DAMP, LOW PI 1.0' RECOV. 15.4 3 4 2 Α CL 15.1 FN SAND, TAN, DAMP TO MOIST, NO PI .9' RECOV. 3 5 5 В SP 17.8 5.0' FN SAND, TAN, MOIST TO SAT, NO PI 2 .9' RECOV. С SP WL @ 6 2 19.7 SAND, GRAVEL, ORGANICS, TAN, NO PI .5' RECOV. ADD WATER DN HOLE D 2 5 4 SP 11.9 10.01 SAND, GRAVEL, TAN, NO PI .8' RECOV. Ε 0 SP 16.9 12.51 SAME AS ABOVE .5' RECOV. 1 2 3 F SP SAND, FN GRAVEL, TAN, NO PI AUGER TO 15' SAMPLE TO 16.5' 15.0' 16.7 .6' RECOV. 4 5 7 G SP LETTER CLASSIFICATION BASED ON LABORATORY CLASSIFICATION (ASTM D-2487) Note: soil descriptions obtained from samples at depths indicated PROJECT ALBUQUERQUE LEVEES HOLE ENG FORM1836 PREVIOUS EDITIONS ARE OBSOLETE.

File No. AQ05BLB07.AM1 8HSA-07 Hole No. DRILLING LOG SOUTH PACIFIC ALBUQUERQUE DISTRICT 10. SIZE AND TYPE OF BIT 8" HSA 2"SS 11. DATUM FOR ELEVATION SHOWN (TBM or MSL) ALBUQUERQUE LEVEES . LOCATION (Coordinates or Station) -106.6723157, 35.011293974 12. MANUFACTURER'S DESIGNATION OF DRILL CME 75 TOTAL NO. OF OVER-ALBUQUERQUE DISTRICT DISTURBED UNDISTURBED . HOLE NO. (As shown on drawing title and file number) 8HSA-07 5. NAME OF DRILLER GEOMECHANICS SOUTHWEST INC, JOSE PEREA 15. ELEVATION GROUND WATER 16. DATE HOLE STARTED 0917 9 JUN 06 VERTICAL ☐ INCLINED 7. ELEVATION TOP OF HOLE 7. THICKNESS OF OVERBURDEN N/A > 18, TOTAL CORE RECOVERY FOR BORING 8. DEPTH DRILLED INTO ROCK 19. NAME(S) OF INSPECTOR(S) FELIX R MASCARENO TOTAL DEPTH OF HOLE 16.5 BLOW COUNTS SPT TEST MOIST. CONTENT CLASSIFICATION OF MATERIALS (Description) REMARKS (Drilling time, water loss,depth of weathering, etc., if significant) 11.7 .9' RECOV. SAND, CLAY, BRN, DRY, LOW PI Α CL ż 15.4 SAND, SILT, ORGANICS, BRN, DRY, NO PI .5' RECOV. 6 В ML 6 17.6 5.0' SAND, SILT, TAN, DAMP, NO PI .9' RECOV. 3 С SP-SM 4 15.0 1.1' RECOV. SP-SMWL @ 7' SAND, SILT, FN GRAVEL, TAN, SAT, NO PI D 2 4 21.1 10.01 SAME AS ABOVE .8' RECOV. 3 4 4 Ε SP-SM 17.0 SAME AS @ 7 1/2' .45' RECOV. 3 1 2 F SP-SM 19.2 15.0' SAND, CLAY, BRN, LOW TO MOD PI AUGER TO 15' SAMPLE TO 16.5' .95' RECOV. G 0 CL LETTER CLASSIFICATION BASED ON LABORATORY CLASSIFICATION (ASTM D-2487) Note: soil descriptions obtained from samples at depths indicated PROJECT ALBUQUERQUE LEVEES HOLE ENG FORM1836 PREVIOUS EDITIONS ARE OBSOLETE.

File No. AQ05BLB08.AM1 8HSA-08 Hole No DRILLING LOG SOUTH PACIFIC ALBUQUERQUE DISTRICT 10. SIZE AND TYPE OF BIT 8" HSA 2"SS 11. DATUM FOR ELEVATION SHOWN (TBM or MSL) ALBUQUERQUE LEVEES .LOCATION (Coordinates or Station) -106.6719865, 35.011219556 12. MANUFACTURER'S DESIGNATION OF DRILL CME 75 13. TOTAL NO. OF OVER-ALBUQUERQUE DISTRICT DISTURBED UNDISTURBED . HOLE NO. (As shown on drawing title and file number) BURDEN SAMPLES TAKEN 8HSA-08 4. TOTAL NUMBER CORE BOXES . NAME OF DRILLER GEOMECHANICS SOUTHWEST INC, JOSE PEREA 15. ELEVATION GROUND WATER 16. DATE HOLE STARTED COMPLETED 1048 9 JUN 06 VERTICAL | INCLINED 7. ELEVATION TOP OF HOLE 7. THICKNESS OF OVERBURDEN N/A > 18 TOTAL CORE RECOVERY FOR BORING 8. DEPTH DRILLED INTO ROCK 19. NAME(S) OF INSPECTOR(S) FELIX R MASCARENO TOTAL DEPTH OF HOLE 31.5' BLOW COUNTS SPT TEST MOIST. CONTENT CLASSIFICATION OF MATERIALS (Description) (Drilling time, water loss,depth of weathering, etc., if significant) .6' RECOV. 6.2 CLAY, BRN, DRY, LOW PI Α CL 10 14.9 CLAY, BRN, DRY, LOW PI .5' RECOV. 9 13 13 В CL 9.8 5.0' SAND, CLAY, BRN, DAMP, MOD PI .9' RECOV. 5 4 C SC 5 14.3 SAND, CLAY, BRN TO TAN, DAMP, LOW PI 1.1' RECOV. D 3 7 SC 4.2 10.01 FN SAND, TAN, DAMP, NO PI 1.15' RECOV. 233 Ε SP 12.51 19.1 .7' RECOV. SP-SMWL @ 13 1/2' SAND, SILT, GRAVEL, TAN, WET TO SAT, NO PI 2 5 6 F 15.0' 16.3 .7' RECOV. SW-SMADD WATER DN HOLE SAND, SILT, FN GRAVEL, TAN, NO PI 2 4 9 G 30.2 17.5' SAND, SILT, FN GRAVEL, GREY, NO PI 1.15' RECOV. 3 3 3 SP-SM 17.9 20.0' SAME AS ABOVE, GRAVEL TO 11/2" 2 .8' RECOV. 1 SP-SM 5 29.5 CLAY, SAND, BRN, ORGANICS, MOD PI 1.2' RECOV. 2 3 3 J CL 23.9 25.0' SAME AS ABOVE, LOW PI 2 5 11 1.1' RECOV. Κ CL 29.2 CLAY, BRN, MOD TO HIGH PI 1.2' RECOV. 3 L CL 9 30.0' 26.7 CLAY, SAND, BRN, MOD PI AUGER TO 30' SAMPLE TO 31.5' 10 8 11 1.1' RECOV. М CL LETTER CLASSIFICATION BASED ON LABORATORY CLASSIFICATION (ASTM D-2487) Note: soil descriptions obtained from samples at depths indicated PROJECT ALBUQUERQUE LEVEES ENG FORM1836 PREVIOUS EDITIONS ARE OBSOLETE.

File No. AQ05BLB09.AM1 8HSA-09 Hole No DRILLING LOG SOUTH PACIFIC ALBUQUERQUE DISTRICT 10. SIZE AND TYPE OF BIT 8" HSA 2"SS 11. DATUM FOR ELEVATION SHOWN (TBM or MSL) ALBUQUERQUE LEVEES . LOCATION (Coordinates or Station) -106.6719865, 35.011219556 12. MANUFACTURER'S DESIGNATION OF DRILL CME 75 13. TOTAL NO. OF OVER-ALBUQUERQUE DISTRICT DISTURBED UNDISTURBED . HOLE NO. (As shown on drawing title and file number) 8HSA-09 5. NAME OF DRILLER GEOMECHANICS SOUTHWEST INC, JOSE PEREA 15. ELEVATION GROUND WATER 16. DATE HOLE STARTED 1305 9 JUN 06 VERTICAL ☐ INCLINED 7. ELEVATION TOP OF HOLE 7. THICKNESS OF OVERBURDEN N/A > 18 TOTAL CORE RECOVERY FOR BORING 8. DEPTH DRILLED INTO ROCK 19. NAME(S) OF INSPECTOR(S) FELIX R MASCARENO TOTAL DEPTH OF HOLE 31.5' MOIST. CONTENT REMARKS (Drilling time, water loss,depth of weathering, etc., if significant) CLASSIFICATION OF MATERIALS (Description) 1.0' RECOV. 3.3 SAND, SILT, BRN, DRY, NO PI 6 8 13 Α SM 4.8 SAND, SILT, FN GRAVEL, TAN, DRY, NO PI 1.1' RECOV. 10 18 22 В SM 1.8 SAND, SILT, FN GRAVEL, TAN, DAMP, 1.15' RECOV. C 5 9 12 SM2.9 FN SAND, SILT, TAN, DAMP, NO PI 1.1' RECOV. D 8 11 12 SM1.7 10.01 5 5 11 SAME AS ABOVE .8' RECOV. Ε SP-SM 2.9 SAND, SILT, TAN, DAMP, NO PI 1.1' RECOV. 57 F SP-SM 8 16.5 15.0' SAND, FN GRAVEL, MOIST TO SAT, TAN TO GREY, NO PI 1.0' RECOV. 2 2 5 G WL @ 16' 19.5 17.5 SAND, GREY, SAT, NO PI 1.2' RECOV 228 ADD WATER DN HOLE 20.0' NO RECOVERY 0' RECOV. 2 3 3 1 25.0 .6' SAND, GREY, NO PI .25' SILT, BRN, NO PI .85' RECOV. 664 J SW-SM 38.2 25.0 CLAY, SAND, BRN, MOD PI 1.1' RECOV. Κ 0 SC 31.8 1.2' RECOV. WT_OF_HAMMER SAME AS ABOVE 000 L SC PUSHED 18" 30.0' 35.4 CLAY, SAND, BRN, MOD PI AUGER TO 30' SAMPLE TO 31.5' 1.2' RECOV. М SC LETTER CLASSIFICATION BASED ON LABORATORY CLASSIFICATION (ASTM D-2487) Note: soil descriptions obtained from samples at depths indicated PROJECT ALBUQUERQUE LEVEES HOLE ENG FORM1836 PREVIOUS EDITIONS ARE OBSOLETE.

File No. AQ05BLB10.AM1 8HSA-10 Hole No. DRILLING LOG SOUTH PACIFIC ALBUQUERQUE DISTRICT 10. SIZE AND TYPE OF BIT 8" HSA 2"SS 11. DATUM FOR ELEVATION SHOWN (TBM or MSL) ALBUQUERQUE LEVEES . LOCATION (Coordinates or Station) -106.6697873, 35.023801665 12. MANUFACTURER'S DESIGNATION OF DRILL . DRILLING AGENCY CME 75 13. TOTAL NO. OF OVER-ALBUQUERQUE DISTRICT DISTURBED UNDISTURBED . HOLE NO. (As shown on drawing title and file number) BURDEN SAMPLES TAKEN 8HSA-10 4. TOTAL NUMBER CORE BOXES . NAME OF DRILLER GEOMECHANICS SOUTHWEST INC, JOSE PEREA 15. ELEVATION GROUND WATER 16. DATE HOLE STARTED COMPLETED 1352 9 JUN 06 DEG. FROM VERT. VERTICAL INCLINED 7. ELEVATION TOP OF HOLE 7. THICKNESS OF OVERBURDEN N/A × 18, TOTAL CORE RECOVERY FOR BORING 8. DEPTH DRILLED INTO ROCK 19. NAME(S) OF INSPECTOR(S) FELIX R MASCARENO TOTAL DEPTH OF HOLE 16.5' BLOW COUNTS SPT TEST MOIST. CONTENT CLASSIFICATION OF MATERIALS (Description) REMARKS (Drilling time, water loss,depth of weathering, etc., if significant) .7' RECOV. 7.2 SAND, CLAY, BRN, DRY, LOW PI 3 5 Α SC 2.9 SAND, SILT, TAN, DAMP, NO PI .6' RECOV. 6 11 13 В SP-SM 3.2 5.0' SAME AS ABOVE 1.1' RECOV. 4 5 С SP-SM 15.7 SAND, FN GRAVEL, GREY, SAT, NO PI .7'RECOV. WL @ 8' D 3 2 5 SP 14.7 10.01 SAME AS ABOVE 1.0' RECOV. ADD WATER DN HOLE Ε SP SAND, FN GRAVEL, GREY, NO PI 12.51 20.1 .6' RECOV. 2 3 5 F SP 19.6 15.0' SAME AS ABOVE AUGER TO 15' SAMPLE TO 16.5' .8' RECOV. 3 5 5 G SP LETTER CLASSIFICATION BASED ON LABORATORY CLASSIFICATION (ASTM D-2487) Note: soil descriptions obtained from samples at depths indicated PROJECT ALBUQUERQUE LEVEES HOLE ENG FORM1836 PREVIOUS EDITIONS ARE OBSOLETE.

File No. AQ05BLB11.AM1 8HSA-11 Hole No DRILLING LOG SOUTH PACIFIC ALBUQUERQUE DISTRICT 10. SIZE AND TYPE OF BIT 8" HSA 2"SS 11. DATUM FOR ELEVATION SHOWN (TBM or MSL) ALBUQUERQUE LEVEES . LOCATION (Coordinates or Station) -106.6695092, 35.02377254 12. MANUFACTURER'S DESIGNATION OF DRILL B. DRILLING AGENCY
ALBUQUERQUE DISTRICT CME 75 13. TOTAL NO. OF OVER-DISTURBED UNDISTURBED . HOLE NO. (As shown on drawing title and file number) BURDEN SAMPLES TAKEN 8HSA-11 4. TOTAL NUMBER CORE BOXES NAME OF DRILLER GEOMECHANICS SOUTHWEST INC, JOSE PEREA DIRECTION OF HOLE 15. ELEVATION GROUND WATER 16. DATE HOLE STARTED COMPLETED 1437 9 JUN 06 VERTICAL INCLINED _ _ DEG. FROM VERT. 7. ELEVATION TOP OF HOLE 7. THICKNESS OF OVERBURDEN N/A × 18 TOTAL CORE RECOVERY FOR BORING 8. DEPTH DRILLED INTO ROCK 19. NAME(S) OF INSPECTOR(S) 16.5' FELIX R MASCARENO TOTAL DEPTH OF HOLE BLOW COUNTS SPT TEST MOIST. CONTENT REMARKS (Drilling time, water loss,depth of weathering, etc., if significant) g CLASSIFICATION OF MATERIALS (Description) SAND, SILT, FN GRAVEL, ORGANICS, BRN, DRY, NO PI .9' RECOV. 0.7 Α 6 7 SM 2.4 FN SAND, SILT, TAN, DAMP, NO PI .9' RECOV. 9 14 17 В SP-SM 2.9 5.0' -SAME AS ABOVE, NO SILT 1.0' RECOV. С 6 8 7 SP 16.8 SAND, TAN, DAMP TO SAT, NO PI 1.2' RECOV. WL @ 8 1/2' D 5 3 5 SP 17.2 10.01 SAND, FN GRAVEL, TAN TO GREY, NO PI 1.1' RECOV. ADD WATER DN HOLE Ε SP SAND, FN GRAVEL, GREY, NO PI 12.51 15.0 .8' RECOV. WT OF HAMMER 0 0 1 F SP 17.2 15.0' AUGER TO 15' SAMPLE TO 10' SAMPLE TO 16 1/2' .75' RECOV. G 4 5 7 SP LETTER CLASSIFICATION BASED ON LABORATORY CLASSIFICATION (ASTM D-2487) Note: soil descriptions obtained from samples at depths indicated PROJECT ALBUQUERQUE LEVEES HOLE ENG FORM1836 PREVIOUS EDITIONS ARE OBSOLETE.

File No. AQ05BLB12.AM1 8HSA-12 Hole No DRILLING LOG SOUTH PACIFIC ALBUQUERQUE DISTRICT 10. SIZE AND TYPE OF BIT 8" HSA 2"SS 11. DATUM FOR ELEVATION SHOWN (TBM or MSL) ALBUQUERQUE LEVEES . LOCATION (Coordinates or Station) -106.6681816, 35.033050637 12. MANUFACTURER'S DESIGNATION OF DRILL CME 75 TOTAL NO. OF OVER-ALBUQUERQUE DISTRICT UNDISTURBED . HOLE NO. (As shown on drawing title and file number) 8HSA-12 . NAME OF DRILLER GEOMECHANICS SOUTHWEST INC, JOSE PEREA 15. ELEVATION GROUND WATER 16. DATE HOLE STARTED COMPLETED VERTICAL INCLINED 7. ELEVATION TOP OF HOLE 7. THICKNESS OF OVERBURDEN N/A > 18 TOTAL CORE RECOVERY FOR BORING 8. DEPTH DRILLED INTO ROCK 19. NAME(S) OF INSPECTOR(S) FELIX R MASCARENO TOTAL DEPTH OF HOLE 31.5' BLOW COUNTS SPT TEST MOIST. CONTENT REMARKS (Drilling time, water loss,depth of weathering, etc., if significant) CLASSIFICATION OF MATERIALS (Description) .9' RECOV. 1.7 SAND, SILT, GRAVEL, TAN, DRY, NO PI Α 6 7 SP-SM 4.1 FN SAND, SILT, TAN, DAMP, NO PI .9' RECOV. 3 2 2 В SM 3.8 FN SAND, SILT, FN GRAVEL, TAN, DAMP, NO PI 1.3' RECOV. 3 5 C SM3.6 SAME AS ABOVE 1.2' RECOV. D 3 4 8 SM10.01 3.4 FN SAND, SILT, TAN, DAMP, NO PI 1.3' RECOV. Ε SM2.4 2 SAND, FN TO COARSE, TAN, DAMP, NO PI 1.1' RECOV. F SP 6 15.0' 12.2 SAND, FN GRAVEL, TAN, DAMP TO SAT, NO PI 1.2' RECOV. 2 2 5 G WL @ 15 1/2' SAND, SILT, FN GRAVEL, TAN TO GREY, SAT, NO PI 14.0 17.5' 1.1' RECOV. SP-SMADD WATER DN HOLE 1 4 3 Н 13.4 20.0' SAND, FN GRAVEL, GREY, NO PI 1.0' RECOV. 3 5 3 1 SP 22.5' NO RECOVERY 0' RECOV. 669 J 4.4 SAND, FN GRAVEL, GREY, NO PI .4' RECOV. 4 5 5 Κ SP 27.5 5.4 SAME AS ABOVE, SILT 1.0' RECOV. 2 5 7 L SP-SM 30.0' NO RECOVERY AUGER TO 30' SAMPLE TO 31.5' 0' RECOV. 6 9 13 М LETTER CLASSIFICATION BASED ON LABORATORY CLASSIFICATION (ASTM D-2487) Note: soil descriptions obtained from samples at depths indicated ENG FORM1836 PROJECT ALBUQUERQUE LEVEES PREVIOUS EDITIONS ARE OBSOLETE.

File No. AQ05BLB13.AM1 8HSA-13 Hole No. DRILLING LOG SOUTH PACIFIC ALBUQUERQUE DISTRICT 10. SIZE AND TYPE OF BIT 8" HSA 2"SS 11. DATUM FOR ELEVATION SHOWN (TBM or MSL) ALBUQUERQUE LEVEES . LOCATION (Coordinates or Station) -106.6644021, 35.042005349 12. MANUFACTURER'S DESIGNATION OF DRILL DRILLING AGENCY CME 75 13. TOTAL NO. OF OVER-ALBUQUERQUE DISTRICT DISTURBED UNDISTURBED . HOLE NO. (As shown on drawing title and file number) BURDEN SAMPLES TAKEN 8HSA-13 4. TOTAL NUMBER CORE BOXES 5. NAME OF DRILLER GEOMECHANICS SOUTHWEST INC, JOSE PEREA 15. ELEVATION GROUND WATER 16. DATE HOLE STARTED COMPLETED 1148 12 JUN 06 VERTICAL INCLINED 7. ELEVATION TOP OF HOLE 7. THICKNESS OF OVERBURDEN N/A × 18 TOTAL CORE RECOVERY FOR BORING 8. DEPTH DRILLED INTO ROCK 19. NAME(S) OF INSPECTOR(S) 16.5' FELIX R MASCARENO TOTAL DEPTH OF HOLE BLOW COUNTS SPT TEST MOIST. CONTENT REMARKS (Drilling time, water loss,depth of weathering, etc., if significant) CLASSIFICATION OF MATERIALS (Description) SAND, SILT, GRAVEL, ORGANICS, BRN, DRY, NO PI 10 11 12 1.0' RECOV. 21.8 Α 16.1 FN SAND, TAN, DAMP, NO PI 1.2' RECOV. 3 4 4 В SP-SM 2.8 5.0' SAME AS ABOVE 1.1' RECOV. 3 6 4 С SP 16.0 1.1' RECOV. WL @ 9' SP-SM SAND, FN TO COARSE, GRAVEL TO 11/2", TAN, DAMP TO WET, NO PI D 3 4 3 18.2 10.01 SAND, FN GRAVEL, TAN, SAT, NO PI .5' RECOV. Ε SP-SM 0 16.8 12.51 SAME AS ABOVE .5' RECOV. 2 5 4 F SP-SM 21.6 15.0' SAND, FN GRAVEL, GREY, SAT, NO PI AUGER TO 15' SAMPLE TO 16.5' .7' RECOV. 2 3 3 G SP-SM LETTER CLASSIFICATION BASED ON LABORATORY CLASSIFICATION (ASTM D-2487) Note: soil descriptions obtained from samples at depths indicated PROJECT ALBUQUERQUE LEVEES HOLE ENG FORM1836 PREVIOUS EDITIONS ARE OBSOLETE.

File No. AQ05BLB14.AM1 8HSA-14 Hole No DRILLING LOG SOUTH PACIFIC ALBUQUERQUE DISTRICT 10. SIZE AND TYPE OF BIT 8" HSA 2"SS 11. DATUM FOR ELEVATION SHOWN (TBM or MSL) ALBUQUERQUE LEVEES . LOCATION (Coordinates or Station) -106.6642952, 35.04195624 12. MANUFACTURER'S DESIGNATION OF DRILL CME 75 TOTAL NO. OF OVER-ALBUQUERQUE DISTRICT . HOLE NO. (As shown on drawing title and file number) 8HSA-14 5. NAME OF DRILLER GEOMECHANICS SOUTHWEST INC, JOSE PEREA 15. ELEVATION GROUND WATER 16. DATE HOLE STARTED VERTICAL ☐ INCLINED 7. ELEVATION TOP OF HOLE 7. THICKNESS OF OVERBURDEN N/A > 18 TOTAL CORE RECOVERY FOR BORING 8. DEPTH DRILLED INTO ROCK 19. NAME(S) OF INSPECTOR(S) FELIX R MASCARENO TOTAL DEPTH OF HOLE MOIST. CONTENT REMARKS
(Drilling time, water loss,depth of weathering, etc., if significant) CLASSIFICATION OF MATERIALS (Description) 8 15 23 1.0' RECOV. 2.5 SAND, SILT, GRAVEL, TAN, DRY, NO PI Α SM FN SAND, FN GRAVEL, TAN, DAMP, NO PI 8.7 .9' RECOV. 10 12 13 В SP 6.4 SAND, SILT, TAN, DAMP, NO PI 1.0' RECOV. 5 6 7 С SP-SM SAND SILT, GRAVEL TO 11/2", TAN, DAMP, NO PI 8.7 .6' RECOV. 9 11 11 D SP-SM 13.0 10.01 FN SAND, FN GRAVEL, TAN, DAMP, 1.2' RECOV. 5 7 7 Ε SP SAND, SILT, ORGANICS, BRN, MOIST, 22.1 .9' RECOV. 3 4 10 F SP-SM 6.8 15.0' FN SAND, SILT, BRN, MOIST, NO PI 1.2' RECOV. 2 3 5 G SM 19.3 SAND, COARSE TO FN, BRN, MOIST TO SAT, NO PI 1.25' RECOV 2 3 8 WL @ 18 1/2' FN SAND, FN GRAVEL, TAN, SAT, NO PI 21.3 1.1' RECOV. ADD WATER DN HOLE 5 9 9 1 SP SAND, FN GRAVEL, TAN, NO PI 14.3 .4' RECOV. 032 J SP 16.0 25.0' SAME AS ABOVE, SILT 1.2' RECOV. 5 4 5 Κ SP-SM 27.5 14.1 SAND, SILT, GRAVEL TO 11/2", TAN, NO PI 5 10 .3' RECOV. L SP-SM 10 30.0' NO RECOVERY AUGER TO 30' SAMPLE TO 31.5' 0' RECOV. 4 5 8 М LETTER CLASSIFICATION BASED ON LABORATORY CLASSIFICATION (ASTM D-2487) Note: soil descriptions obtained from samples at depths indicated PROJECT ALBUQUERQUE LEVEES HOLE ENG FORM1836 PREVIOUS EDITIONS ARE OBSOLETE.

File No. AQ05BLB15.AM1 8HSA-15 Hole No. DRILLING LOG SOUTH PACIFIC ALBUQUERQUE DISTRICT 10. SIZE AND TYPE OF BIT 8" HSA 2"SS 11. DATUM FOR ELEVATION SHOWN (TBM or MSL) ALBUQUERQUE LEVEES . LOCATION (Coordinates or Station) -106.6641455, 35.041866277 12. MANUFACTURER'S DESIGNATION OF DRILL DRILLING AGENCY CME 75 13. TOTAL NO. OF OVER-ALBUQUERQUE DISTRICT DISTURBED UNDISTURBED . HOLE NO. (As shown on drawing title and file number) BURDEN SAMPLES TAKEN 8HSA-15 4. TOTAL NUMBER CORE BOXES . NAME OF DRILLER GEOMECHANICS SOUTHWEST INC, JOSE PEREA 15. ELEVATION GROUND WATER 16. DATE HOLE STARTED COMPLETED 1233 12 JUN 06 _ DEG. FROM VERT. VERTICAL INCLINED . 7. ELEVATION TOP OF HOLE 7. THICKNESS OF OVERBURDEN N/A > 18, TOTAL CORE RECOVERY FOR BORING 8. DEPTH DRILLED INTO ROCK 19. NAME(S) OF INSPECTOR(S) FELIX R MASCARENO TOTAL DEPTH OF HOLE 16.5' BLOW COUNTS SPT TEST MOIST. CONTENT CLASSIFICATION OF MATERIALS (Description) REMARKS
(Drilling time, water loss,depth of weathering, etc., if significant) 1.0' RECOV. 2.9 SAND, SILT, ORGANICS, BRN, DRY, NO PI 5 8 9 Α SP-SM 3.2 SAND, TAN, DAMP, NO PI .9' RECOV. 5 4 9 В SP 2.6 5.0' SAND, SILT, TAN, MOIST, NO PI 1.1' RECOV. С SP-SM 18.6 SAND, COARSE TO FN, TAN, MOIST TO SAT, NO PI .9'RECOV. WL @ 8 1/2' D 3 6 6 SP 19.5 10.01 .4' RECOV. SP-SMADD WATER DN HOLE SAND, SILT, TAN, SAT, NO PI Ε ż 12.51 15.1 SAND, FN GRAVEL, GREY, NO PI .5' RECOV. 3 2 2 F 9.1 15.0' SAND, SILT, FN GRAVEL, GREY, NO PI AUGER TO 15' SAMPLE TO 16.5' .6' RECOV. G 2 2 SW-SM LETTER CLASSIFICATION BASED ON LABORATORY CLASSIFICATION (ASTM D-2487) Note: soil descriptions obtained from samples at depths indicated PROJECT ALBUQUERQUE LEVEES HOLE ENG FORM1836 PREVIOUS EDITIONS ARE OBSOLETE.

File No. AQ05BLB16.AM1 8HSA-16 Hole No DRILLING LOG SOUTH PACIFIC ALBUQUERQUE DISTRICT 10. SIZE AND TYPE OF BIT 8" HSA 2"SS 11. DATUM FOR ELEVATION SHOWN (TBM or MSL) ALBUQUERQUE LEVEES .LOCATION (Coordinates or Station) -106.6589029, 35.049030182 12. MANUFACTURER'S DESIGNATION OF DRILL CME 75 TOTAL NO. OF OVER-ALBUQUERQUE DISTRICT HOLE NO. (As shown on drawing title and file number) 8HSA-16 5. NAME OF DRILLER GEOMECHANICS SOUTHWEST INC, JOSE PEREA 15. ELEVATION GROUND WATER 16. DATE HOLE STARTED VERTICAL ☐ INCLINED 7. ELEVATION TOP OF HOLE 7. THICKNESS OF OVERBURDEN N/A > 18 TOTAL CORE RECOVERY FOR BORING 8. DEPTH DRILLED INTO ROCK 19. NAME(S) OF INSPECTOR(S) FELIX R MASCARENO TOTAL DEPTH OF HOLE 16.5 MOIST. CONTENT REMARKS
(Drilling time, water loss,depth of weathering, etc., if significant) CLASSIFICATION OF MATERIALS (Description) d FN SAND, SILT, GRAVEL, BRN, DRY, NO PI 6 17 23 1.1' RECOV. 0.4 Α SM 3.1 FN SAND, SILT, BRN, DRY, NO PI 1.0' RECOV. 13 13 19 В SM 4.8 SAME AS ABOVE 1.0' RECOV. 6 21 30 C SM3.4 FN SAND, SILT, BRN, DAMP, NO PI 9 13 21 1.1' RFCOV. D SM3.8 10.01 8 11 13 SAND, SILT, GRAVEL, BRN, DAMP, NO PI 1.1' RECOV. Ε SM3.1 FN SAND, SILT, TAN, DAMP, NO PI 1.0' RECOV. 3 4 12 F SM 15.0' 11.2 FN SAND, SILT, TAN TO BRN, DAMP TO MOIST, NO PI 1.2' RECOV. 3 3 4 G SM 5.6 17.5 SAND, COARSE TO FN GRAIN, TAN, MOIST TO WET, NO PI 1.1' RECOV. 4 3 11 Н WL @ 19 1/2' 21.7 20.0' SAND, SILT, FN GRAVEL, GREY, SAT, .9' RECOV. 3 7 7 1 SP-SM SAND, GRAVEL, GREY, SAT, NO PI 15.0 9' RECOV 3 J ADD WATER DN HOLE 8.6 25.0' SAND, SILT, FN GRAVEL, TAN, NO PI 1.15' RECOV. 245 Κ SM 27.5 NO RECOVERY 0' RECOV. 3 L 68 30.0' 26.8 .5'SAND, FN GRAVEL, TAN, NO PI .5'SILT, BRN, SAND, NO PI AUGER TO 30' SAMPLE TO 31.5' 1.0' RECOV. 4 2 2 М SM LETTER CLASSIFICATION BASED ON LABORATORY CLASSIFICATION (ASTM D-2487) Note: soil descriptions obtained from samples at depths indicated PROJECT ALBUQUERQUE LEVEES HOLE ENG FORM1836 PREVIOUS EDITIONS ARE OBSOLETE.

File No. AQ05BLB17.AM1 8HSA-17 Hole No DRILLING LOG SOUTH PACIFIC ALBUQUERQUE DISTRICT 10. SIZE AND TYPE OF BIT 8" HSA 2"SS 11. DATUM FOR ELEVATION SHOWN (TBM or MSL) ALBUQUERQUE LEVEES . LOCATION (Coordinates or Station) -106.6569805, 35.067809952 12. MANUFACTURER'S DESIGNATION OF DRILL CME 75 TOTAL NO. OF OVER-ALBUQUERQUE DISTRICT DISTURBED UNDISTURBED . HOLE NO. (As shown on drawing title and file number) 8HSA-17 5. NAME OF DRILLER GEOMECHANICS SOUTHWEST INC, JOSE PEREA DIRECTION OF HOLE 15. ELEVATION GROUND WATER 16. DATE HOLE STARTED COMPLETED 1553 12 JUN 06 VERTICAL ☐ INCLINED DEG. FROM VERT. 7. ELEVATION TOP OF HOLE 7. THICKNESS OF OVERBURDEN N/A > 18 TOTAL CORE RECOVERY FOR BORING 8. DEPTH DRILLED INTO ROCK 19. NAME(S) OF INSPECTOR(S) FELIX R MASCARENO TOTAL DEPTH OF HOLE 31.5' BLOW COUNTS SPT TEST MOIST. CONTENT REMARKS
(Drilling time, water loss,depth of weathering, etc., if significant) CLASSIFICATION OF MATERIALS (Description) .9' RECOV. 1.0 SAND, SILT, GRAVEL, BRN, DRY, NO PI 6 13 14 Α SP-SM 2.9 FN SAND, SILT, BRN, DRY, NO PI 1.1' RECOV. 9 11 В SP-SM 20 4.3 5.0' SAND, SILT, BRN, DRY, NO PI 1.1' RECOV. С 6 8 7 SM4.5 FN SAND, SILT, TAN, DAMP, NO PI 1.0' RECOV. D 4 4 5 SM29.2 10.01 SAND, CLAY, TAN TO BRN, MOIST, LOW PI 1.1' RECOV. 2 3 5 Ε SM4.5 FN SAND, SILT, TAN, MOIST, NO PI 1.1' RECOV. 3 6 8 F SP-SM 21.0 15.0' FN SAND, TAN, MOIST TO SAT, NO PI 1.2' RECOV. 2 3 5 G WL @ 16' 17.5' NO RECOVERY 0' RECOV 1 Н ADD WATER DN HOLE 4 20.0' NO RECOVERY 0' RECOV. 1 1 4 3 9.8 SAND, FN GRAVEL, TAN, NO PI .8' RECOV. 3 5 4 J SP 8.9 25.0' SAME AS ABOVE .8' RECOV. 3 4 3 Κ SW 27.5 NO RECOVERY O'RECOV. WT OF HAMMER 003 L 30.0' 23.6 SAND, SILT, GREY, NO PI AUGER TO 30' SAMPLE TO 31.5' .8' RECOV. М SMLETTER CLASSIFICATION BASED ON LABORATORY CLASSIFICATION (ASTM D-2487) Note: soil descriptions obtained from samples at depths indicated PROJECT ALBUQUERQUE LEVEES HOLE ENG FORM1836 PREVIOUS EDITIONS ARE OBSOLETE.

File No. AQ05BLB18.AM1 8HSA-18 Hole No DRILLING LOG SOUTH PACIFIC ALBUQUERQUE DISTRICT 10. SIZE AND TYPE OF BIT 8" HSA 2"SS 11. DATUM FOR ELEVATION SHOWN (TBM or MSL) ALBUQUERQUE LEVEES . LOCATION (Coordinates or Station) -106.6568166, 35.067830559 12. MANUFACTURER'S DESIGNATION OF DRILL CME 75 TOTAL NO. OF OVER-ALBUQUERQUE DISTRICT UNDISTURBED . HOLE NO. (As shown on drawing title and file number) 8HSA-18 5. NAME OF DRILLER GEOMECHANICS SOUTHWEST INC, JOSE PEREA DIRECTION OF HOLE 15. ELEVATION GROUND WATER 16. DATE HOLE STARTED VERTICAL INCLINED 7. ELEVATION TOP OF HOLE 7. THICKNESS OF OVERBURDEN N/A > 18, TOTAL CORE RECOVERY FOR BORING 8. DEPTH DRILLED INTO ROCK 19. NAME(S) OF INSPECTOR(S) FELIX R MASCARENO TOTAL DEPTH OF HOLE 16.5 BLOW COUNTS SPT TEST MOIST. CONTENT REMARKS
(Drilling time, water loss,depth of weathering, etc., if significant) CLASSIFICATION OF MATERIALS (Description) .8' RECOV. 3.0 SAND, SILT, GRAVEL, BRN, DRY, NO PI 6 Α 6 SM 25.1 SAND, SILT, GRAVEL, BRN, MOIST, NO PI 1.0' RECOV. 3 5 В SM 16.1 5.0' FN SAND, SILT, BRN TO TAN, MOIST, NO PI .7' RECOV. 2 C SM4 18.4 1.2' RECOV. SP-SMWL @ 9' SAND, SILT, FN GRAVEL, TAN TO GREY, MOIST TO SAT, NO PI D 2 3 2 14.2 10.01 SAND, GRAVEL, GREY, SAT, NO PI 1.1' RECOV. Ε SP 12.51 14.0 .5' RECOV. SP-SMADD WATER DN HOLE SAND, SILT, GRAVEL, GREY, NO PI 2 3 4 15.1 15.0' SAND, FN GRAVEL, GREY, NO PI AUGER TO 15' SAMPLE TO 16.5' .6' RECOV. G LETTER CLASSIFICATION BASED ON LABORATORY CLASSIFICATION (ASTM D-2487) Note: soil descriptions obtained from samples at depths indicated PROJECT ALBUQUERQUE LEVEES HOLE ENG FORM1836 PREVIOUS EDITIONS ARE OBSOLETE.

File No. AQ05BLB19.AM1 8HSA-19 Hole No DRILLING LOG SOUTH PACIFIC ALBUQUERQUE DISTRICT 10. SIZE AND TYPE OF BIT 8" HSA 2"SS 11. DATUM FOR ELEVATION SHOWN (TBM or MSL) ALBUQUERQUE LEVEES . LOCATION (Coordinates or Station) -106.6619102, 35.066576239 12. MANUFACTURER'S DESIGNATION OF DRILL CME 75 13. TOTAL NO. OF OVER-ALBUQUERQUE DISTRICT DISTURBED UNDISTURBED . HOLE NO. (As shown on drawing title and file number) 8HSA-19 4. TOTAL NUMBER CORE BOXES . NAME OF DRILLER GEOMECHANICS SOUTHWEST INC, JOSE PEREA 15. ELEVATION GROUND WATER 16. DATE HOLE STARTED COMPLETED 0948 13 JUN 06 VERTICAL INCLINED . 7. ELEVATION TOP OF HOLE 7. THICKNESS OF OVERBURDEN N/A > 18 TOTAL CORE RECOVERY FOR BORING 8. DEPTH DRILLED INTO ROCK 19. NAME(S) OF INSPECTOR(S) FELIX R MASCARENO TOTAL DEPTH OF HOLE 31.5' MOIST. CONTENT REMARKS
(Drilling time, water loss,depth of weathering, etc., if significant) CLASSIFICATION OF MATERIALS (Description) SAND, SILT, FN GRAVEL, BRN, DRY, NO PI .9' RECOV. 1.4 10 Α 14 14 SM 3.8 FN SAND, SILT, TAN, DAMP, NO PI .85' RECOV. 567 В SM 4.3 5.0' SAME AS ABOVE 1.0' RECOV. C 4 5 7 SM2.2 FN SAND, SILT, TAN, DAMP, NO PI .9' RECOV. D SM3 5 6.1 10.01 SILT, TAN, DAMP, LOW PI 1.0' RECOV. Ε ML1.2 3 4 FN SAND, SILT, TAN, DAMP, NO PI .3' RECOV. F SP-SM 3 2.1 15.0' SAND, FN TO COARSE, DAMP TO MOIST TAN, NO PI .9' RECOV. 2 3 4 G SP 18.1 17.5' SAND, FN GRAVEL, TAN, SAT, NO PI 9' RECOV. 23 Н SP 4 12.8 20.0 SAME AS ABOVE .9' RECOV 2 3 3 1 ADD WATER DN HOLE SP SAND, FN GRAVEL, TAN, NO PI .75' RECOV. 3 5 6 J 14.4 SAND, FN GRAVEL, TAN, NO PI .55' RECOV. Κ SP 16.6 SAME AS ABOVE .4' RECOV. 4 5 8 L SP 30.0' 13.4 SAND, SILT, FN GRAVEL, TAN, NO PI AUGER TO 30' SAMPLE TO 31.5' .9' RECOV. 3 4 М SP-SM LETTER CLASSIFICATION BASED ON LABORATORY CLASSIFICATION (ASTM D-2487) Note: soil descriptions obtained from samples at depths indicated PROJECT ALBUQUERQUE LEVEES HOLE ENG FORM1836 PREVIOUS EDITIONS ARE OBSOLETE.

File No. AQ05BLB20.AM1 8HSA-20 Hole No. DRILLING LOG SOUTH PACIFIC ALBUQUERQUE DISTRICT 10. SIZE AND TYPE OF BIT 8" HSA 2"SS 11. DATUM FOR ELEVATION SHOWN (TBM or MSL) ALBUQUERQUE LEVEES .LOCATION (Coordinates or Station) -106.6617747, 35.066598057 12. MANUFACTURER'S DESIGNATION OF DRILL CME 75 13. TOTAL NO. OF OVER-ALBUQUERQUE DISTRICT DISTURBED UNDISTURBED . HOLE NO. (As shown on drawing title and file number) BURDEN SAMPLES TAKEN 8HSA-20 4. TOTAL NUMBER CORE BOXES 5. NAME OF DRILLER GEOMECHANICS SOUTHWEST INC, JOSE PEREA 15. ELEVATION GROUND WATER STARTED 16. DATE HOLE COMPLETED 1034 13 JUN 06 _ DEG. FROM VERT. VERTICAL INCLINED 7. ELEVATION TOP OF HOLE 7. THICKNESS OF OVERBURDEN N/A > 18, TOTAL CORE RECOVERY FOR BORING 8. DEPTH DRILLED INTO ROCK 19. NAME(S) OF INSPECTOR(S) FELIX R MASCARENO TOTAL DEPTH OF HOLE 16.5' BLOW COUNTS SPT TEST MOIST. CONTENT REMARKS
(Drilling time, water loss,depth of weathering, etc., if significant) CLASSIFICATION OF MATERIALS (Description) 1.0' RECOV. 0.9 FN SAND, SILT, TAN, DRY, NO PI Α 3 SP-SM 2.2 FN SAND, SILT, TAN, DAMP, NO PI 1.0' RECOV. 5 8 7 В SP-SM 1.7 5.0' SILT, TAN, DAMP, NO PI 1.0' RECOV. С 3 4 3 SM1.9 FN SAND, TAN, MOIST, NO PI 1.2' RECOV. D 245 SP 13.8 10.01 FN SAND, TAN, MOIST TO WET, NO PI 1.1' RECOV. 3 3 3 Ε SP 12.51 19.1 SAND, FN GRAVEL, TAN, SAT, NO PI 1.1' RECOV. F WL @ 12' SP 18.3 15.0' SAND, GRAVEL, TAN, SAT, NO PI AUGER TO 15' SAMPLE TO 16.5' .9' RECOV. 2 3 4 G SP LETTER CLASSIFICATION BASED ON LABORATORY CLASSIFICATION (ASTM D-2487) Note: soil descriptions obtained from samples at depths indicated PROJECT ALBUQUERQUE LEVEES HOLE ENG FORM1836 PREVIOUS EDITIONS ARE OBSOLETE.

File No. AQ05BLB21.AM1 8HSA-21 Hole No DRILLING LOG SOUTH PACIFIC ALBUQUERQUE DISTRICT 10. SIZE AND TYPE OF BIT 8" HSA 2"SS 11. DATUM FOR ELEVATION SHOWN (TBM or MSL) ALBUQUERQUE LEVEES . LOCATION (Coordinates or Station) -106.6609862, 35.005607532 12. MANUFACTURER'S DESIGNATION OF DRILL CME 75 TOTAL NO. OF OVER-ALBUQUERQUE DISTRICT UNDISTURBED . HOLE NO. (As shown on drawing title and file number) 8HSA-21 5. NAME OF DRILLER GEOMECHANICS SOUTHWEST INC, JOSE PEREA DIRECTION OF HOLE 15. ELEVATION GROUND WATER 16. DATE HOLE STARTED 13 JUN 06 1322 VERTICAL INCLINED 7. ELEVATION TOP OF HOLE 7. THICKNESS OF OVERBURDEN N/A > 18, TOTAL CORE RECOVERY FOR BORING 8. DEPTH DRILLED INTO ROCK 19. NAME(S) OF INSPECTOR(S) FELIX R MASCARENO TOTAL DEPTH OF HOLE 31.5' BLOW COUNTS SPT TEST MOIST. CONTENT REMARKS
(Drilling time, water loss,depth of weathering, etc., if significant) CLASSIFICATION OF MATERIALS (Description) d 1.1' RECOV. 1.9 SILT, GRAVEL, BRN, DRY, LOW PI Α 15 24 SM 3.4 SILT, TAN, DAMP, NO PI 1.0' RECOV. 14 16 16 В SM 4.8 SILT, GRAVEL, BRN, DAMP, NO PI 1.0' RECOV. C 8 5 5 SM3.9 SILT, TAN, DAMP, NO PI 1.0' RECOV. D 5 4 7 SM9.4 10.01 SILT, TAN TO BRN, DAMP, NO PI 1.0' RECOV. 3 5 Ε SM16.5 FN SAND, SILT, BRN, MOIST, NO PI 1.1' RECOV. 3 5 F SM 15.0' 16.2 SAND, SILT, FN GRAVEL, TAN, SAT, NO PI .8' RECOV. 6 G SP-SMWL @ 16' 5 16.5 SAND, FN GRAVEL, TAN, NO PI 9' RECOV 23 ADD WATER DN HOLE ĕ 16.4 20.0' SAND, FN GRAVEL, TAN, NO PI 2 .9' RECOV. 1 SP 4 15.9 SAND, FN GRAVEL, SILT, TAN TO BRN, NO PI .9' RECOV. 1 J SW-SM 2 25.0' NO RECOVERY 0' RECOV. 2 2 5 K 28.8 SAND, SILT, BRN, NO PI .6' RECOV. 522 L SM 30.0' 24.5 SILT, GREY, NO PI AUGER TO 30' SAMPLE TO 31.5' .6' RECOV. 4 7 М ML LETTER CLASSIFICATION BASED ON LABORATORY CLASSIFICATION (ASTM D-2487) Note: soil descriptions obtained from samples at depths indicated PROJECT ALBUQUERQUE LEVEES HOLE ENG FORM1836 PREVIOUS EDITIONS ARE OBSOLETE.

File No. AQ05BLB23.AM1 8HSA-23 Hole No. DRILLING LOG SOUTH PACIFIC ALBUQUERQUE DISTRICT 10. SIZE AND TYPE OF BIT 8" HSA 2"SS 11. DATUM FOR ELEVATION SHOWN (TBM or MSL) ALBUQUERQUE LEVEES .LOCATION (Coordinates or Station) -106.6680195, 35.044837525 12. MANUFACTURER'S DESIGNATION OF DRILL CME 75 13. TOTAL NO. OF OVER-ALBUQUERQUE DISTRICT DISTURBED UNDISTURBED . HOLE NO. (As shown on drawing title and file number) BURDEN SAMPLES TAKEN 8HSA-23 4. TOTAL NUMBER CORE BOXES 5. NAME OF DRILLER GEOMECHANICS SOUTHWEST INC, JOSE PEREA 15. ELEVATION GROUND WATER 16. DATE HOLE STARTED COMPLETED 1507 13 JUN 06 VERTICAL INCLINED _ 7. ELEVATION TOP OF HOLE 7. THICKNESS OF OVERBURDEN N/A > 18 TOTAL CORE RECOVERY FOR BORING 8. DEPTH DRILLED INTO ROCK 19. NAME(S) OF INSPECTOR(S) FELIX R MASCARENO TOTAL DEPTH OF HOLE 31.5' BLOW COUNTS SPT TEST MOIST. CONTENT REMARKS
(Drilling time, water loss,depth of weathering, etc., if significant) CLASSIFICATION OF MATERIALS (Description) .8' RECOV. 1.6 SAND, SILT, GRAVEL, BRN, DRY, NO PI 8 15 11 Α SM 7.1 FN SAND, SILT, BRN, DAMP, NO PI 1.1' RECOV. 4 5 6 В SM 2.8 FN SAND, SILT, TAN, DAMP, NO PI 1.1' RECOV. 4 5 10 С SM2.0 SAND, SILT, GRAVEL, TAN, DAMP, NO PI 1.1' RECOV. D 9 13 13 SP-SM 2.1 10.01 SILT, TAN, DAMP, NO PI .5' RECOV. 9 9 12 Ε SM4.9 12.5 SAME AS ABOVE 1.1' RECOV. 3 5 8 F SM FN SAND, TAN, DAMP TO MOIST, 2.8 15.0' .9' RECOV. 4 3 7 G SP WL @ 17' 19.9 17.5' SAND COARSE TO FN, GREY, NO PI 1.1' RECOV. ADD WATER DN HOLE 2 6 4 Н SP 18.7 20.0' SAND, TAN, NO PI .6' RECOV. 2 2 6 1 SP 16.2 SAND, GREY, FN GRAVEL, NO PI .5' RECOV. 2 2 2 J SP 14.7 25.0' SAND, FN GRAVEL, TAN, NO PI 1.1' RECOV. 5 9 6 Κ SP 27.5 NO RECOVERY 0' RECOV. L 5 30.0' -16.7 SAND, FN GRAVEL, GREY, NO PI AUGER TO 30' SAMPLE TO 31.5' .7' RECOV. 3 5 8 М LETTER CLASSIFICATION BASED ON LABORATORY CLASSIFICATION (ASTM D-2487) Note: soil descriptions obtained from samples at depths indicated PROJECT ALBUQUERQUE LEVEES HOLE ENG FORM1836 PREVIOUS EDITIONS ARE OBSOLETE.

File No. AQ05BLB25.AM1 8HSA-25 Hole No DRILLING LOG SOUTH PACIFIC ALBUQUERQUE DISTRICT 10. SIZE AND TYPE OF BIT 8" HSA 2"SS 11. DATUM FOR ELEVATION SHOWN (TBM or MSL) ALBUQUERQUE LEVEES . LOCATION (Coordinates or Station) -106.6735740, 35.03582966 12. MANUFACTURER'S DESIGNATION OF DRILL ALBUQUERQUE DISTRICT CME 75 13. TOTAL NO. OF OVER-DISTURBED UNDISTURBED . HOLE NO. (As shown on drawing title and file number) BURDEN SAMPLES TAKEN 8HSA-25 4. TOTAL NUMBER CORE BOXES 5. NAME OF DRILLER GEOMECHANICS SOUTHWEST INC, JOSE PEREA DIRECTION OF HOLE 15. ELEVATION GROUND WATER 16. DATE HOLE STARTED COMPLETED 1642 13 JUN 06 _ DEG. FROM VERT. VERTICAL INCLINED _ 7. ELEVATION TOP OF HOLE 7. THICKNESS OF OVERBURDEN N/A > 18 TOTAL CORE RECOVERY FOR BORING 8. DEPTH DRILLED INTO ROCK 19. NAME(S) OF INSPECTOR(S) FELIX R MASCARENO TOTAL DEPTH OF HOLE 31.5' BLOW COUNTS SPT TEST MOIST. CONTENT CLASSIFICATION OF MATERIALS (Description) REMARKS
(Drilling time, water loss,depth of weathering, etc., if significant) SAND, SILT, ORGANICS, BRN, DRY TO DAMP, NO PI .7' RECOV. 3.6 3 8 11 Α SM 4.7 FN SAND, SILT, TAN, DAMP, NO PI 1.0' RECOV. 9 11 В SM 10 9.9 5.0' FN SAND, SILT, GRAVEL, BRN, DAMP, NO PI 1.1' RECOV. С 6 12 14 SM9.8 SILT, BRN, DAMP, NO PI 1.2' RECOV. D 5 5 6 ML 12.7 10.01 SAME AS ABOVE, ORGANICS 1.1' RECOV. Ε ML6 12.51 22.5 SILT, BRN, ORGANICS, WET, NO PI .9' RECOV. 225 F ML 23.5 15.0' FN SAND, ORGANICS, GREY, WET, NO PL 1.2' RECOV. 3 2 7 G SP WL @ 16' 14.7 17.5' SAND, GRAVEL, TAN, NO PI .8' RECOV 25 Н ADD WATER DN HOLE SP ĕ 20.0' NO RECOVERY 0' RECOV. 6 5 3 1 14.0 SAND, GRAVEL, TAN, NO PI .7' RECOV. 7 J SP 6 25.0' 14.2 SAME AS ABOVE 3 .4' RECOV. Κ SP ż 14.8 SAND, FN GRAVEL, GREY, NO PI .6' RECOV. 5 6 7 L SP 30.0' -17.6 SAME AS ABOVE, SILT AUGER TO 30' SAMPLE TO 31.5' .5' RECOV. 6 8 13 М SP-SM LETTER CLASSIFICATION BASED ON LABORATORY CLASSIFICATION (ASTM D-2487) Note: soil descriptions obtained from samples at depths indicated PROJECT ALBUQUERQUE LEVEES HOLE ENG FORM1836 PREVIOUS EDITIONS ARE OBSOLETE.

File No. AQ05BLB26.AM1 8HSA-26 Hole No. DRILLING LOG SOUTH PACIFIC ALBUQUERQUE DISTRICT 10. SIZE AND TYPE OF BIT 8" HSA 2"SS 11. DATUM FOR ELEVATION SHOWN (TBM or MSL) ALBUQUERQUE LEVEES . LOCATION (Coordinates or Station) -106.6737389, 35.035820898 12. MANUFACTURER'S DESIGNATION OF DRILL ALBUQUERQUE DISTRICT CME 75 13. TOTAL NO. OF OVER-DISTURBED UNDISTURBED . HOLE NO. (As shown on drawing title and file number) BURDEN SAMPLES TAKEN 8HSA-26 4. TOTAL NUMBER CORE BOXES 5. NAME OF DRILLER GEOMECHANICS SOUTHWEST INC, JOSE PEREA DIRECTION OF HOLE 15. ELEVATION GROUND WATER 16. DATE HOLE STARTED COMPLETED 0831 14 JUN 06 _ DEG. FROM VERT. VERTICAL INCLINED 7. ELEVATION TOP OF HOLE 7. THICKNESS OF OVERBURDEN N/A > 18, TOTAL CORE RECOVERY FOR BORING 8. DEPTH DRILLED INTO ROCK 19. NAME(S) OF INSPECTOR(S) FELIX R MASCARENO TOTAL DEPTH OF HOLE 16.5' BLOW COUNTS SPT TEST e MOIST. CONTENT CLASSIFICATION OF MATERIALS (Description) REMARKS
(Drilling time, water loss,depth of weathering, etc., if significant) SAND, SILT, ORGANICS, BRN, DRY, NO PI 1.1' RECOV. 2.0 Α 16 9 SM 21.3 SAND, CLAY, BRN, DAMP, LOW PI 1.1' RECOV. 2 3 6 В SC-SM 24.0 5.0' 1.25'RECOV. WL @ 7' SAND, SILT, BRN, DAMP TO WET, С 4 6 6 SM16.9 COARSE SAND, FN GRAVEL, TAN, NO PI .9' RECOV. ADD WATER DN HOLE 2 D SP ż 20.9 10.01 SAME AS ABOVE .5' RECOV. Ε SP 12.51 18.8 SAND, SILT, FN GRAVEL, TAN, NO PI 1.0' RECOV. 2 3 5 F SW-SM 15.0' FN GRAVEL, SAND, TAN, NO PI AUGER TO 15' SAMPLE TO 16.5' 3.3 1.1' RECOV. 5 6 10 G SP LETTER CLASSIFICATION BASED ON LABORATORY CLASSIFICATION (ASTM D-2487) Note: soil descriptions obtained from samples at depths indicated PROJECT ALBUQUERQUE LEVEES HOLE ENG FORM1836 PREVIOUS EDITIONS ARE OBSOLETE.

File No. AQ05BLB27.AM1 8HSA-27 Hole No. DRILLING LOG SOUTH PACIFIC ALBUQUERQUE DISTRICT 10. SIZE AND TYPE OF BIT 8" HSA 2"SS 11. DATUM FOR ELEVATION SHOWN (TBM or MSL) ALBUQUERQUE LEVEES . LOCATION (Coordinates or Station) -106.6673183, 35.072079036 12. MANUFACTURER'S DESIGNATION OF DRILL CME 75 13. TOTAL NO. OF OVER-ALBUQUERQUE DISTRICT DISTURBED UNDISTURBED . HOLE NO. (As shown on drawing title and file number) BURDEN SAMPLES TAKEN 8HSA-27 4. TOTAL NUMBER CORE BOXES 5. NAME OF DRILLER GEOMECHANICS SOUTHWEST INC, JOSE PEREA 15. ELEVATION GROUND WATER 16. DATE HOLE STARTED COMPLETED 1322 14 JUN 06 _ DEG. FROM VERT. VERTICAL INCLINED _ 7. ELEVATION TOP OF HOLE 7. THICKNESS OF OVERBURDEN N/A × 18 TOTAL CORE RECOVERY FOR BORING 8. DEPTH DRILLED INTO ROCK 19. NAME(S) OF INSPECTOR(S) 16.5' FELIX R MASCARENO TOTAL DEPTH OF HOLE BLOW COUNTS SPT TEST e MOIST. CONTENT REMARKS (Drilling time, water loss,depth of weathering, etc., if significant) g CLASSIFICATION OF MATERIALS (Description) 0' RECOV. NO RECOVERY Α 4 2.0 SAND, SILT, FN GRAVEL, TAN, DAMP, NO PI .9' RECOV. 3 4 5 В SP-SM 18.2 5.0' -SAND, SILT, GRAVEL, TAN, DAMP TO WET, NO PI 1.1' RECOV. С 4 5 6 SW-SM 7.2 SAND, FN GRAVEL, TAN, WET, NO PI .8' RECOV. WL @ 9 1/2' D SP 0 88.1 10.01 SAND, FN GRAVEL, GREY, SAT, NO PI 3 1.0' RECOV. Ε SP ż 12.51 18.7 SAME AS ABOVE 1.1' RECOV. F SP 1 11.9 15.0' . . . SAND, FN GRAVEL, GREY, SAT, NO PI AUGER TO 15' SAMPLE TO 16.5' 1.1' RECOV. 4 G SP 8 LETTER CLASSIFICATION BASED ON LABORATORY CLASSIFICATION (ASTM D-2487) Note: soil descriptions obtained from samples at depths indicated PROJECT ALBUQUERQUE LEVEES HOLE ENG FORM1836 PREVIOUS EDITIONS ARE OBSOLETE.

File No. AQ05BLB28.AM1 8HSA-28 Hole No DRILLING LOG SOUTH PACIFIC ALBUQUERQUE DISTRICT 10. SIZE AND TYPE OF BIT 8" HSA 2"SS 11. DATUM FOR ELEVATION SHOWN (TBM or MSL) ALBUQUERQUE LEVEES .LOCATION (Coordinates or Station) -106.6672062, 35.072220052 12. MANUFACTURER'S DESIGNATION OF DRILL CME 75 13. TOTAL NO. OF OVER-ALBUQUERQUE DISTRICT DISTURBED UNDISTURBED . HOLE NO. (As shown on drawing title and file number) 8HSA-28 4. TOTAL NUMBER CORE BOXES 5. NAME OF DRILLER GEOMECHANICS SOUTHWEST INC, JOSE PEREA 15. ELEVATION GROUND WATER 16. DATE HOLE STARTED COMPLETED 14 JUN 06 VERTICAL | INCLINED 7. ELEVATION TOP OF HOLE 7. THICKNESS OF OVERBURDEN N/A > 18 TOTAL CORE RECOVERY FOR BORING 8. DEPTH DRILLED INTO ROCK 19. NAME(S) OF INSPECTOR(S) FELIX R MASCARENO TOTAL DEPTH OF HOLE 31.5' BLOW COUNTS SPT TEST MOIST. CONTENT REMARKS
(Drilling time, water loss,depth of weathering, etc., if significant) CLASSIFICATION OF MATERIALS (Description) 13 22 29 1.1' RECOV. 0.7 SAND, SILT, GRAVEL, BRN, DRY, NO PI Α SM 3.6 SAME AS ABOVE, DAMP 1.0' RECOV. В 8 13 SM 7.4 5.0' FN SAND, SILT, BRN TO TAN, DAMP, NO PI 1.1' RECOV. C SM6 11.2 SILT, FN GRAVEL, TAN, MOIST, NO PI 1.0' RECOV. D 6 9 8 ML 12.0 10.01 SILT, TAN, MOIST, NO PI .9' RECOV. 6 2 4 Ε ML42.9 12.5 CLAY, SAND, BRN, MOIST, MOD PI 1.0' RECOV. 1 2 4 F CL 15.01 21.7 SAND, SILT, TAN, MOIST TO SAT, NO PI 1.2' RECOV. G WL @ 16' SM 23.2 17.5 FN SAND, SILT, GREY, NO PI .8' RECOV 3 SP-SMADD WATER DN HOLE 4 17.1 20.0 . SAND, FN GRAVEL, GREY, NO PI 1.1' RECOV. 3 2 5 1 SP 13.3 SAME AS ABOVE 1.0' RECOV. 3 5 7 J SP 7.7 25.0' SAND, FN GRAVEL, GREY TO TAN, NO PI 1.0' RECOV. 6 8 7 Κ SP 6.5 SAND, GRAVEL TO 11/2", TAN, NO PI 1.1' RECOV. 10 L 16 15 SP 30.0' 15.6 SAME AS ABOVE AUGER TO 30' SAMPLE TO 31.5' 1.0' RECOV. М SP LETTER CLASSIFICATION BASED ON LABORATORY CLASSIFICATION (ASTM D-2487) Note: soil descriptions obtained from samples at depths indicated PROJECT ALBUQUERQUE LEVEES ENG FORM1836 PREVIOUS EDITIONS ARE OBSOLETE.

File No. AQ05BLB29.AM1 8HSA-29 Hole No. DRILLING LOG SOUTH PACIFIC ALBUQUERQUE DISTRICT 10. SIZE AND TYPE OF BIT 8" HSA 2"SS 11. DATUM FOR ELEVATION SHOWN (TBM or MSL) ALBUQUERQUE LEVEES . LOCATION (Coordinates or Station) -106.6671130, 35.07229166 12. MANUFACTURER'S DESIGNATION OF DRILL CME 75 13. TOTAL NO. OF OVER-ALBUQUERQUE DISTRICT DISTURBED UNDISTURBED . HOLE NO. (As shown on drawing title and file number) BURDEN SAMPLES TAKEN 8HSA-29 4. TOTAL NUMBER CORE BOXES . NAME OF DRILLER GEOMECHANICS SOUTHWEST INC, JOSE PEREA DIRECTION OF HOLE 15. ELEVATION GROUND WATER 16. DATE HOLE STARTED COMPLETED 1417 14 JUN 06 _ DEG. FROM VERT. VERTICAL INCLINED . 7. ELEVATION TOP OF HOLE 7. THICKNESS OF OVERBURDEN N/A × 18, TOTAL CORE RECOVERY FOR BORING 8. DEPTH DRILLED INTO ROCK 19. NAME(S) OF INSPECTOR(S) FELIX R MASCARENO TOTAL DEPTH OF HOLE 16.5 BLOW COUNTS SPT TEST e MOIST. CONTENT CLASSIFICATION OF MATERIALS (Description) REMARKS
(Drilling time, water loss,depth of weathering, etc., if significant) CLAY, SAND, SILT, ORGANICS, BRN, DAMP, LOW PI .9' RECOV. 8.1 Α SC-SM 8 18.2 SILT, ORGANICS, BRN, DAMP, NO PI 1.1' RECOV. 10 9 7 В ML 31.1 5.0' CLAY, SAND, BRN, MOD PI, MOIST 1.1' RECOV. C CL 17.4 1.0' RECOV. SP-SMWL @ 7 1/2' SAND, SILT, FN GRAVEL, GREY, SAT, NO PI D 2 3 2 SAND, FN GRAVEL, GREY, SAT, NO PI 16.3 10.01 1.0' RECOV. Ε 3 4 SP 12.51 16.2 SAND, FN GRAVEL, GREY, SAT, NO PI .8' RECOV. 2 3 6 F SP 12.5 15.0' SAND, FN GRAVEL, TAN, SAT, NO PI AUGER TO 15' SAMPLE TO 16.5' 1.1' RECOV. 6 7 5 G SP LETTER CLASSIFICATION BASED ON LABORATORY CLASSIFICATION (ASTM D-2487) Note: soil descriptions obtained from samples at depths indicated PROJECT ALBUQUERQUE LEVEES HOLE ENG FORM1836 PREVIOUS EDITIONS ARE OBSOLETE.

File No. AQ05BLB30.AM1 8HSA-30 Hole No DRILLING LOG SOUTH PACIFIC ALBUQUERQUE DISTRICT 10. SIZE AND TYPE OF BIT 8" HSA 2"SS 11. DATUM FOR ELEVATION SHOWN (TBM or MSL) ALBUQUERQUE LEVEES .LOCATION (Coordinates or Station) -106.6785517, 35.084336222 12. MANUFACTURER'S DESIGNATION OF DRILL DRILLING AGENCY CME 75 13. TOTAL NO. OF OVER-ALBUQUERQUE DISTRICT UNDISTURBED . HOLE NO. (As shown on drawing title and file number) 8HSA-30 4. TOTAL NUMBER CORE BOXES 5. NAME OF DRILLER GEOMECHANICS SOUTHWEST INC, JOSE PEREA DIRECTION OF HOLE 15. ELEVATION GROUND WATER 16. DATE HOLE STARTED COMPLETED 0935 15 JUN 06 VERTICAL INCLINED 7. ELEVATION TOP OF HOLE 7. THICKNESS OF OVERBURDEN N/A > 18 TOTAL CORE RECOVERY FOR BORING 8. DEPTH DRILLED INTO ROCK 19. NAME(S) OF INSPECTOR(S) FELIX R MASCARENO TOTAL DEPTH OF HOLE 31.5' BLOW COUNTS SPT TEST e MOIST. CONTENT CLASSIFICATION OF MATERIALS (Description) REMARKS
(Drilling time, water loss,depth of weathering, etc., if significant) SAND, SILT, GRAVEL, BRN, DRY TO 1.0' RECOV. 3.1 4 9 10 Α SM 4.2 FN SAND, SILT, BRN, DAMP, NO PI 1.1' RECOV. 11 12 14 В SM 3.2 FN SAND, SILT, TAN, DAMP, NO PI 1.2' RECOV. 5 8 12 С SM2.2 SAND, SILT, TAN, DAMP, NO PI 1.2' RECOV. D 6 9 14 SP-SM 11.2 10.01 SAND, SILT, TAN TO BRN, DAMP, NO PI 1.2' RECOV. 3 3 8 Ε SM FN SAND, TAN, DAMP TO WET, NO PI 10.3 1.2' RECOV. 7 7 14 F SP SAND, TAN TO GREY, FN GRAVEL, WET, 15.0' 18.4 2 1.3' RECOV. G WL @ 17' SP 9 10.9 17.5' SAND, GRAVEL GREY, SAT, NO PI 1.2' RECOV 3 5 11 ADD WATER DN HOLE 20.0' NO RECOVERY 0' RECOV. 2 8 3 1 14.5 SAND, FN GRAVEL, GREY, NO PI .6' RECOV. 47 J SP 12 25.0' NO RECOVERY O'RECOV. INSTALLED NEW Κ 6 11 CATCHER 17.0 SAND, FN GRAVEL, GREY, NO PI .3' RECOV. 2 3 2 L SP 30.0' 16.7 SAND, SILT, FN GRAVEL, GREY, NO PI AUGER TO 30' SAMPLE TO 31.5' .7' RECOV. 4 9 8 М SW-SM LETTER CLASSIFICATION BASED ON LABORATORY CLASSIFICATION (ASTM D-2487) Note: soil descriptions obtained from samples at depths indicated PROJECT ALBUQUERQUE LEVEES HOLE ENG FORM1836 PREVIOUS EDITIONS ARE OBSOLETE.

File No. AQ05BLB31.AM1 8HSA-31 Hole No. DRILLING LOG SOUTH PACIFIC ALBUQUERQUE DISTRICT 10. SIZE AND TYPE OF BIT 8" HSA 2"SS 11. DATUM FOR ELEVATION SHOWN (TBM or MSL) ALBUQUERQUE LEVEES . LOCATION (Coordinates or Station) -106.6786698, 35.08427778 12. MANUFACTURER'S DESIGNATION OF DRILL ALBUQUERQUE DISTRICT CME 75 13. TOTAL NO. OF OVER-DISTURBED UNDISTURBED . HOLE NO. (As shown on drawing title and file number) BURDEN SAMPLES TAKEN 8HSA-31 4. TOTAL NUMBER CORE BOXES . NAME OF DRILLER GEOMECHANICS SOUTHWEST INC, JOSE PEREA 15. ELEVATION GROUND WATER 16. DATE HOLE STARTED COMPLETED 1033 15 JUN 06 _ DEG. FROM VERT. VERTICAL INCLINED 7. ELEVATION TOP OF HOLE 7. THICKNESS OF OVERBURDEN N/A × 18, TOTAL CORE RECOVERY FOR BORING 8. DEPTH DRILLED INTO ROCK 19. NAME(S) OF INSPECTOR(S) 16.5' FELIX R MASCARENO TOTAL DEPTH OF HOLE BLOW COUNTS SPT TEST e MOIST. CONTENT REMARKS (Drilling time, water loss,depth of weathering, etc., if significant) g CLASSIFICATION OF MATERIALS (Description) FN SAND, SILT, ORGANICS, BRN, DRY, NO PI 1.2' RECOV. 2.0 10 10 8 Α SM 9.0 FN SAND, SILT, TAN, DAMP, NO PL 1.0' RECOV. 3 6 7 В SP-SM 18.9 5.0' -SAND, FN GRAVEL, TAN, SAT, NO PI .8'RECOV. WL @ 5' С SP 4 12.6 SAME AS ABOVE .7' RECOV. ADD WATER DN HOLE D SP 0 10.01 NO RECOVERY 0' RECOV. Ε 0 12.51 18.0 SAND, FN GRAVEL, TAN, NO PI .7' RECOV. 2 1 2 F SP SAME AS ABOVE AUGER TO 15' SAMPLE TO 16.5' 20.0 15.0' -.5' RECOV. 3 5 4 G SP LETTER CLASSIFICATION BASED ON LABORATORY CLASSIFICATION (ASTM D-2487) Note: soil descriptions obtained from samples at depths indicated PROJECT ALBUQUERQUE LEVEES HOLE ENG FORM1836 PREVIOUS EDITIONS ARE OBSOLETE.

File No. AQ05BLB32.AM1 8HSA-32 Hole No. DRILLING LOG SOUTH PACIFIC ALBUQUERQUE DISTRICT 10. SIZE AND TYPE OF BIT 8" HSA 2"SS 11. DATUM FOR ELEVATION SHOWN (TBM or MSL) ALBUQUERQUE LEVEES .LOCATION (Coordinates or Station) -106.6636957, 35.076092587 12. MANUFACTURER'S DESIGNATION OF DRILL CME 75 13. TOTAL NO. OF OVER-ALBUQUERQUE DISTRICT DISTURBED UNDISTURBED . HOLE NO. (As shown on drawing title and file number) 8HSA-32 4. TOTAL NUMBER CORE BOXES 5. NAME OF DRILLER GEOMECHANICS SOUTHWEST INC, JOSE PEREA 15. ELEVATION GROUND WATER 16. DATE HOLE STARTED COMPLETED 14 JUN 06 1030 VERTICAL INCLINED _ 7. ELEVATION TOP OF HOLE 7. THICKNESS OF OVERBURDEN N/A > 18 TOTAL CORE RECOVERY FOR BORING 8. DEPTH DRILLED INTO ROCK 19. NAME(S) OF INSPECTOR(S) FELIX R MASCARENO TOTAL DEPTH OF HOLE 31.5' MOIST. CONTENT CLASSIFICATION OF MATERIALS (Description) (Drilling time, water loss,depth of weathering, etc., if significant) SAND, SILT, CLAY, GRAVEL, BRN, LOW PI .8' RECOV. 4.3 4 5 4 Α FN SAND, SILT, FN GRAVEL, TAN, DAMP, NO PI 3.1 1.0' RECOV. В 12 16 SP-SM 6.7 5.0' SAND, SILT, TAN, DAMP, LOW PI .9' RECOV. 4 8 10 С SM5.5 FN SAND, SILT, BRN, DAMP, LOW PI 1.2' RECOV. D 9 SM16.8 10.01 SAND, SILT, DK BRN, MOIST, LOW PI 1.0' RECOV. 7 14 5 Ε SM16.6 FN SAND, SILT, TAN, MOIST, NO PI 1.2' RECOV. 4 6 5 F SP-SM FN SAND, TAN, SAT, NO PI 15.0' 21.8 1.0' RECOV. G 3 6 WL @ 15' 22.9 FN SAND, TAN, NO PI .8' RECOV 9 10 10 G ADD WATER DN HOLE 14.6 SILT, FN GRAVEL, TAN, NO PI 1.0' RECOV. 4 G SM 6 3 34.6 CLAY, SAND, GREY, MOD PI 1.0' RECOV. 6 8 7 G CL 25.0' 42.2 CLAY, SAND, GREY, LOW PI 1.0' RECOV. 225 G CL 27.5 18.1 SAND, FN GRAVEL, GREY, NO PI 1.0' RECOV. G 3 6 SP 30.0' SAME AS ABOVE AUGER TO 30' SAMPLE TO 31.5' 1.1' RECOV. 6 G LETTER CLASSIFICATION BASED ON LABORATORY CLASSIFICATION (ASTM D-2487) Note: soil descriptions obtained from samples at depths indicated PROJECT ALBUQUERQUE LEVEES HOLE ENG FORM1836 PREVIOUS EDITIONS ARE OBSOLETE.

File No. AQ05BLB33.AM1 8HSA-33 Hole No. DRILLING LOG SOUTH PACIFIC ALBUQUERQUE DISTRICT 10. SIZE AND TYPE OF BIT 8" HSA 2"SS 11. DATUM FOR ELEVATION SHOWN (TBM or MSL) ALBUQUERQUE LEVEES .LOCATION (Coordinates or Station) -106.6906029, 35.092906367 12. MANUFACTURER'S DESIGNATION OF DRILL CME 75 13. TOTAL NO. OF OVER-ALBUQUERQUE DISTRICT DISTURBED UNDISTURBED . HOLE NO. (As shown on drawing title and file number) BURDEN SAMPLES TAKEN 8HSA-33 4. TOTAL NUMBER CORE BOXES 5. NAME OF DRILLER GEOMECHANICS SOUTHWEST INC, JOSE PEREA DIRECTION OF HOLE 15. ELEVATION GROUND WATER 16. DATE HOLE STARTED COMPLETED 15 JUN 06 1225 VERTICAL INCLINED _ 7. ELEVATION TOP OF HOLE 7. THICKNESS OF OVERBURDEN N/A > 18 TOTAL CORE RECOVERY FOR BORING 8. DEPTH DRILLED INTO ROCK 19. NAME(S) OF INSPECTOR(S) FELIX R MASCARENO TOTAL DEPTH OF HOLE 31.5' BLOW COUNTS SPT TEST MOIST. CONTENT REMARKS
(Drilling time, water loss,depth of weathering, etc., if significant) CLASSIFICATION OF MATERIALS (Description) .9' RECOV. 3.5 SILT, BRN, DRY, NO PI 15 18 15 Α ML 5.3 FN SAND, SILT, BRN, DAMP, NO PI 1.1' RECOV. 10 16 16 В SM 3.5 5.0' SAME AS ABOVE 1.0' RECOV. 3 9 С SP-SM 10 4.5 FN SAND, SILT, TAN, DAMP, NO PI 1.2' RECOV. D 3 6 SP-SM 2.2 10.01 FN SAND, TAN, DAMP, NO PI 6 1.0' RECOV. Ε SP 10 18.1 12.51 FN SAND, TAN, MOIST TO SAT, NO PI 1.2' RECOV. WL @ 13 1/2' 4 2 5 F SP 15.0' 17.6 SAND, FN GRAVEL, TAN, NO PI .9' RECOV. ADD WATER DN HHOLE G 24 SP 16.9 17.5' SAND, GRAVEL, TAN, NO PI .7' RECOV. 4 5 3 Н SP 17.0 20.0' SAME AS ABOVE 1.0' RECOV. 1 1 SP 4 0.6 GRAVEL, SAND, TAN, NO PI .9' RECOV. 9 11 13 J GΡ 5.1 25.0' SAME AS ABOVE 8 15 18 0. .4' RECOV. Κ GW 27.5 NO RECOVERY 0' RECOV. L 10 30.0' NO RECOVERY AUGER TO 30' SAMPLE TO 31.5' 5 9 11 0' RECOV. М LETTER CLASSIFICATION BASED ON LABORATORY CLASSIFICATION (ASTM D-2487) Note: soil descriptions obtained from samples at depths indicated PROJECT ALBUQUERQUE LEVEES HOLE ENG FORM1836 PREVIOUS EDITIONS ARE OBSOLETE.

File No. AQ05BLB34.AM1 8HSA-34 Hole No. DRILLING LOG SOUTH PACIFIC ALBUQUERQUE DISTRICT 10. SIZE AND TYPE OF BIT 8" HSA 2"SS 11. DATUM FOR ELEVATION SHOWN (TBM or MSL) ALBUQUERQUE LEVEES . LOCATION (Coordinates or Station) -106.6906901, 35.092819318 12. MANUFACTURER'S DESIGNATION OF DRILL CME 75 13. TOTAL NO. OF OVER-ALBUQUERQUE DISTRICT DISTURBED UNDISTURBED . HOLE NO. (As shown on drawing title and file number) BURDEN SAMPLES TAKEN 8HSA-34 4. TOTAL NUMBER CORE BOXES NAME OF DRILLER GEOMECHANICS SOUTHWEST INC, JOSE PEREA 15. ELEVATION GROUND WATER 16. DATE HOLE STARTED COMPLETED 1317 15 JUN 06 _ DEG. FROM VERT. VERTICAL INCLINED 7. ELEVATION TOP OF HOLE 7. THICKNESS OF OVERBURDEN N/A × 18, TOTAL CORE RECOVERY FOR BORING 8. DEPTH DRILLED INTO ROCK 19. NAME(S) OF INSPECTOR(S) FELIX R MASCARENO TOTAL DEPTH OF HOLE 16.5' BLOW COUNTS SPT TEST e MOIST. CONTENT CLASSIFICATION OF MATERIALS (Description) REMARKS
(Drilling time, water loss,depth of weathering, etc., if significant) 1.0' RECOV. 2.2 SAND, SILT, ORGANICS, BRN, DRY, NO PI Α SM 8 FN SAND, SILT, ORGANICS, TAN, DAMP, NO PI 3.5 1.1' RECOV. 5 8 11 В SP-SM 11.2 5.0' SAND, TAN, DAMP TO WET, NO PI 1.0' RECOV. С SP 4 13.4 SAND, GRAVEL, TAN, SAT, NO PI .6'RECOV. WL @ 8' 3 D SP ż 16.0 10.01 SAND, FN GRAVEL, TAN, NO PI .6'RECOV. ADD WATER DN HOLE 243 Ε SP 12.51 19.1 SAME AS ABOVE .6' RECOV. 2 3 5 F SP 15.0' 14.3 SAND, FN GRAVEL, TAN, NO PI AUGER TO 15' SAMPLE TO 16.5' .6' RECOV. 3 5 6 G SP LETTER CLASSIFICATION BASED ON LABORATORY CLASSIFICATION (ASTM D-2487) Note: soil descriptions obtained from samples at depths indicated PROJECT ALBUQUERQUE LEVEES HOLE ENG FORM1836 PREVIOUS EDITIONS ARE OBSOLETE.

File No. AQ05BLB35.AM1 8HSA-35 Hole No. DRILLING LOG SOUTH PACIFIC ALBUQUERQUE DISTRICT 10. SIZE AND TYPE OF BIT 8" HSA 2"SS 11. DATUM FOR ELEVATION SHOWN (TBM or MSL) ALBUQUERQUE LEVEES -106.6857062, 35.094456763 12. MANUFACTURER'S DESIGNATION OF DRILL CME 75 13. TOTAL NO. OF OVER-ALBUQUERQUE DISTRICT DISTURBED UNDISTURBED . HOLE NO. (As shown on drawing title and file number) 8HSA-35 4. TOTAL NUMBER CORE BOXES . NAME OF DRILLER GEOMECHANICS SOUTHWEST INC, JOSE PEREA DIRECTION OF HOLE 15. ELEVATION GROUND WATER 16. DATE HOLE STARTED COMPLETED 1507 15 JUN 06 VERTICAL INCLINED _ 7. ELEVATION TOP OF HOLE 7. THICKNESS OF OVERBURDEN N/A > 18 TOTAL CORE RECOVERY FOR BORING 8. DEPTH DRILLED INTO ROCK 19. NAME(S) OF INSPECTOR(S) FELIX R MASCARENO TOTAL DEPTH OF HOLE 31.5' MOIST. CONTENT CLASSIFICATION OF MATERIALS (Description) REMARKS (Drilling time, water loss,depth of weathering, etc., if significant) SAND, SILT, FN GRAVEL, DRY TO DAMP, TAN, NO PI .9' RECOV. 2.0 16 16 10 Α 2.9 SAME AS ABOVE, DAMP 16 18 21 1.1' RECOV. В SP-SM 2.9 5.0' SAND, FN GRAVEL, TAN, MOIST, NO PI 1.1' RECOV. 4 11 С SP-SM 14 4.6 SAND, GRAVEL, TAN, MOIST, NO PI 13 12 9 .8' RECOV. D SP-SM 4.7 10.01 9 13 7 SILT, TAN, MOIST, NO PI .6' RECOV. Ε SM3.3 SAND, GRAVEL, TAN, MOIST, NO PI .8' RECOV. 3 5 9 F SP 5.4 15.0' SAND, FN GRAVEL, TAN, MOIST TO WET, 1.0' RECOV. 3 6 G SP WL @ 17' 24.3 17.5' SAND, FN GRAVEL, TAN TO GREY, SAT, .8' RECOV 3 Н ADD WATER DN HOLE ż 20.0' NO RECOVERY 0' RECOV. 2 3 5 1 9.4 SAND, FN GRAVEL, TAN, NO PI .7' RECOV. J SP 10 25.0' 15.2 SAME AS ABOVE .8' RECOV. 2 3 4 Κ SP 27.5' NO RECOVERY 0' RECOV. L 9 30.0' -11.1 SAND, FN GRAVEL, TAN, NO PI AUGER TO 30' SAMPLE TO 31.5' .8' RECOV. М LETTER CLASSIFICATION BASED ON LABORATORY CLASSIFICATION (ASTM D-2487) Note: soil descriptions obtained from samples at depths indicated PROJECT ALBUQUERQUE LEVEES HOLE ENG FORM1836 PREVIOUS EDITIONS ARE OBSOLETE.

File No. AQ05BLB36.AM1 8HSA-36 Hole No. DRILLING LOG SOUTH PACIFIC ALBUQUERQUE DISTRICT 10. SIZE AND TYPE OF BIT 8" HSA 2"SS 11. DATUM FOR ELEVATION SHOWN (TBM or MSL) ALBUQUERQUE LEVEES . LOCATION (Coordinates or Station) -106.6857877, 35.094360555 12. MANUFACTURER'S DESIGNATION OF DRILL ALBUQUERQUE DISTRICT CME 75 13. TOTAL NO. OF OVER-DISTURBED UNDISTURBED . HOLE NO. (As shown on drawing title and file number) BURDEN SAMPLES TAKEN 8HSA-36 4. TOTAL NUMBER CORE BOXES 5. NAME OF DRILLER GEOMECHANICS SOUTHWEST INC, JOSE PEREA 15. ELEVATION GROUND WATER 16. DATE HOLE STARTED COMPLETED 0917 16 JUN 06 VERTICAL INCLINED . 7. ELEVATION TOP OF HOLE 7. THICKNESS OF OVERBURDEN N/A > 18, TOTAL CORE RECOVERY FOR BORING 8. DEPTH DRILLED INTO ROCK 19. NAME(S) OF INSPECTOR(S) FELIX R MASCARENO TOTAL DEPTH OF HOLE 16.5' BLOW COUNTS SPT TEST MOIST. CONTENT CLASSIFICATION OF MATERIALS (Description) REMARKS (Drilling time, water loss,depth of weathering, etc., if significant) 1.1' RECOV. 4.0 SILT, SAND, ORGANICS, BRN, DRY, NO PI 3 2 3 Α 4.1 FN SAND, TAN, DAMP, NO PI 1.1' RECOV. 2 3 6 В SP-SM 2.0 5.0' SAND, TAN, MOIST, NO PL .9' RECOV. 3 2 3 С SP 11.4 SAND, FN GRAVEL, TAN, MOIST TO SAT, NO PI 1.0' RECOV. WL @ 8 1/2' D 4 3 2 SP 15.7 10.01 SAND, SILT, GRAVEL, TAN, SAT, NO PI .5' RECOV. 3 2 3 Ε SP-SM 12.51 13.9 SAND, FN GRAVEL, TAN, SAT, NO PI .7' RECOV. 4 2 1 F 17.6 15.0' SAME AS ABOVE, SILT AUGER TO 15' SAMPLE TO 16.5' .4' RECOV. 223 G SP-SM LETTER CLASSIFICATION BASED ON LABORATORY CLASSIFICATION (ASTM D-2487) Note: soil descriptions obtained from samples at depths indicated PROJECT ALBUQUERQUE LEVEES HOLE ENG FORM1836 PREVIOUS EDITIONS ARE OBSOLETE.

File No. AQ05BLB37.AM1 8HSA-37 Hole No. DRILLING LOG SOUTH PACIFIC ALBUQUERQUE DISTRICT 10. SIZE AND TYPE OF BIT 8" HSA 2"SS 11. DATUM FOR ELEVATION SHOWN (TBM or MSL) ALBUQUERQUE LEVEES .LOCATION (Coordinates or Station) -106.6856437, 35.09456447 12. MANUFACTURER'S DESIGNATION OF DRILL DRILLING AGENCY
ALBUQUERQUE DISTRICT CME 75 13. TOTAL NO. OF OVER-DISTURBED UNDISTURBED . HOLE NO. (As shown on drawing title and file number) BURDEN SAMPLES TAKEN 8HSA-37 4. TOTAL NUMBER CORE BOXES 5. NAME OF DRILLER GEOMECHANICS SOUTHWEST INC, JOSE PEREA 15. ELEVATION GROUND WATER 16. DATE HOLE STARTED COMPLETED 1010 16 JUN 06 _ DEG. FROM VERT. VERTICAL INCLINED 7. ELEVATION TOP OF HOLE 7. THICKNESS OF OVERBURDEN N/A × 18, TOTAL CORE RECOVERY FOR BORING 8. DEPTH DRILLED INTO ROCK 19. NAME(S) OF INSPECTOR(S) FELIX R MASCARENO TOTAL DEPTH OF HOLE 16.5' BLOW COUNTS SPT TEST MOIST. CONTENT REMARKS
(Drilling time, water loss,depth of weathering, etc., if significant) CLASSIFICATION OF MATERIALS (Description) .9' RECOV. 1.0 SILT, SAND, BRN, DRY, NO PI Α 08 SP-SM 2.0 SAND, GRAVEL, TAN, DAMP, NO PI .6' RECOV. 4 5 4 В SP 5.0' .. NO RECOVERY 0' RECOV. С 67 15.8 SAND, FN GRAVEL, TAN, MOIST TO SAT, NO PI 1.2' RECOV. WL @ 8 1/2' 3 D SP 18.9 10.01 SAND, FN GRAVEL, TAN, SAT, NO PI 1.0' RECOV. Ε SP ż 12.51 17.6 SAME AS ABOVE 1.1' RECOV. F SP 5 15.0' NO RECOVERY AUGER TO 15' SAMPLE TO 16.5' 0' RECOV. 3 2 3 G LETTER CLASSIFICATION BASED ON LABORATORY CLASSIFICATION (ASTM D-2487) Note: soil descriptions obtained from samples at depths indicated PROJECT ALBUQUERQUE LEVEES HOLE ENG FORM1836 PREVIOUS EDITIONS ARE OBSOLETE.

File No. AQ05BLB38.AM1 8HSA-38 Hole No DRILLING LOG SOUTH PACIFIC ALBUQUERQUE DISTRICT 10. SIZE AND TYPE OF BIT 8" HSA 2"SS 11. DATUM FOR ELEVATION SHOWN (TBM or MSL) ALBUQUERQUE LEVEES . LOCATION (Coordinates or Station) -106.6908379, 35.104081847 12. MANUFACTURER'S DESIGNATION OF DRILL CME 75 13. TOTAL NO. OF OVER-ALBUQUERQUE DISTRICT DISTURBED UNDISTURBED . HOLE NO. (As shown on drawing title and file number) 8HSA-38 4. TOTAL NUMBER CORE BOXES 5. NAME OF DRILLER GEOMECHANICS SOUTHWEST INC, JOSE PEREA 15. ELEVATION GROUND WATER 16. DATE HOLE STARTED COMPLETED 16 JUN 06 1202 VERTICAL | INCLINED DEG, FROM VERT. 7. ELEVATION TOP OF HOLE 7. THICKNESS OF OVERBURDEN N/A > 18 TOTAL CORE RECOVERY FOR BORING 8. DEPTH DRILLED INTO ROCK 19. NAME(S) OF INSPECTOR(S) FELIX R MASCARENO TOTAL DEPTH OF HOLE 31.5' BLOW COUNTS SPT TEST MOIST. CONTENT REMARKS (Drilling time, water loss,depth of weathering, etc., if significant) CLASSIFICATION OF MATERIALS (Description) 1.0' RECOV. 4.0 SAND, SILT, GRAVEL, BRN, DRY, NO PI 8 Α SM 10 4.8 SAND, SILT, BRN, DRY, NO PI .9' RECOV. 8 12 12 В SM 2.4 FN SAND, SILT, TAN, DAMP, NO PI 1.2' RECOV. С 11 SP-SM 14 3.8 SAND, SILT, TAN, DAMP, NO PI 1.2' RECOV. 10 12 21 D SM7.1 10.01 FN SAND, SILT, BRN, DAMP, NO PI 1.1' RECOV. Ε 10 16 SM12.7 FN SAND, CLAY, BRN, MOIST, LOW PI 1.2' RECOV. 2 F SC 10 27.4 15.0' CLAY, SAND, GREY, MOIST TO WET, MOD PI 2 1.1' RECOV. G WL @ 16 1/5' 64 SC 15.0 17.5' 1.2' RECOV SAND, FN GRAVEL, TAN, SAT, NO PI 4 ADD WATER DN HOLE SP 8 19.1 20.0 SILT, FN GRAVEL, TAN, NO PI 2 .7' RECOV. 1 SM 4 19.7 SILT, FN GRAVEL, TAN, NO PI .8' RECOV. 3 2 5 J SM 20.6 25.0 SAND, FN GRAVEL, CLAY, TAN, LOW PI .5' RECOV. Κ SP-SC ż 13.9 SAND, SILT, FN GRAVEL, TAN, NO PI .6' RECOV. 5 5 7 L SP-SM 30.0' 17.6 SAND, FN GRAVEL, TAN, NO PI AUGER TO 30' SAMPLE TO 31.5' .3' RECOV. 5 8 12 М LETTER CLASSIFICATION BASED ON LABORATORY CLASSIFICATION (ASTM D-2487) Note: soil descriptions obtained from samples at depths indicated ENG FORM1836 PROJECT ALBUQUERQUE LEVEES PREVIOUS EDITIONS ARE OBSOLETE.

File No. AQ05BLB39.AM1 8HSA-39 Hole No. DRILLING LOG SOUTH PACIFIC ALBUQUERQUE DISTRICT 10. SIZE AND TYPE OF BIT 8" HSA 2"SS 11. DATUM FOR ELEVATION SHOWN (TBM or MSL) ALBUQUERQUE LEVEES . LOCATION (Coordinates or Station) -106.6910674, 35.104114611 12. MANUFACTURER'S DESIGNATION OF DRILL CME 75 TOTAL NO. OF OVER-ALBUQUERQUE DISTRICT DISTURBED UNDISTURBED . HOLE NO. (As shown on drawing title and file number) 8HSA-39 4. TOTAL NUMBER CORE BOXES . NAME OF DRILLER GEOMECHANICS SOUTHWEST INC, JOSE PEREA 15. ELEVATION GROUND WATER 16. DATE HOLE STARTED COMPLETED 1300 16 JUN 06 DEG. FROM VERT. VERTICAL ☐ INCLINED 7. ELEVATION TOP OF HOLE 7. THICKNESS OF OVERBURDEN N/A > 18, TOTAL CORE RECOVERY FOR BORING 8. DEPTH DRILLED INTO ROCK 19. NAME(S) OF INSPECTOR(S) FELIX R MASCARENO TOTAL DEPTH OF HOLE 16.5 BLOW COUNTS SPT TEST MOIST. CONTENT CLASSIFICATION OF MATERIALS (Description) REMARKS (Drilling time, water loss,depth of weathering, etc., if significant) .5' RECOV. 8.2 CLAY, BRN, DRY, MOD PI Α СН 4 8.4 CLAY, SAND, BRN, DRY, MOD PI .3' RECOV. 4 5 6 В CL 3.6 5.0' 1.1' RECOV. SP-SMWL @ 7' SAND, SILT, FN GRAVEL, TAN, MOIST, 3 4 7 С 17.2 SAND, FN GRAVEL, TAN, SAT, NO PI 1.0' RECOV. 10 12 21 D SP 17.6 10.01 SAME AS ABOVE 1.2' RECOV. ADD WATER DN HOLE Ε SP 20.0 12.51 SAND, SILT, FN GRAVEL, TAN, NO PI .4' RECOV. 3 6 F SP-SM 14.2 15.0' SAND, FN GRAVEL, TAN, NO PI AUGER TO 15' SAMPLE TO 16.5' .65' RECOV. G LETTER CLASSIFICATION BASED ON LABORATORY CLASSIFICATION (ASTM D-2487) Note: soil descriptions obtained from samples at depths indicated PROJECT ALBUQUERQUE LEVEES HOLE ENG FORM1836 PREVIOUS EDITIONS ARE OBSOLETE.

File No. AQ05BLB40.AM1 8HSA-40 Hole No. DRILLING LOG SOUTH PACIFIC ALBUQUERQUE DISTRICT 10. SIZE AND TYPE OF BIT 8" HSA 2"SS 11. DATUM FOR ELEVATION SHOWN (TBM or MSL) ALBUQUERQUE LEVEES . LOCATION (Coordinates or Station) -106.6907218, 35.104076497 12. MANUFACTURER'S DESIGNATION OF DRILL CME 75 13. TOTAL NO. OF OVER-ALBUQUERQUE DISTRICT DISTURBED UNDISTURBED . HOLE NO. (As shown on drawing title and file number) 8HSA-40 4. TOTAL NUMBER CORE BOXES 5. NAME OF DRILLER GEOMECHANICS SOUTHWEST INC, JOSE PEREA 15. ELEVATION GROUND WATER 16. DATE HOLE STARTED 1340 16 JUN 06 VERTICAL INCLINED _ DEG. FROM VERT. 7. ELEVATION TOP OF HOLE 7. THICKNESS OF OVERBURDEN N/A > 18, TOTAL CORE RECOVERY FOR BORING 8. DEPTH DRILLED INTO ROCK 19. NAME(S) OF INSPECTOR(S) FELIX R MASCARENO TOTAL DEPTH OF HOLE 16.5' BLOW COUNTS SPT TEST e MOIST. CONTENT CLASSIFICATION OF MATERIALS (Description) REMARKS (Drilling time, water loss,depth of weathering, etc., if significant) .8' RECOV. 0.3 SILT, SAND, TAN, DRY, ORGANICS, NO PI Α ġ 1.6 SAND, SILT, FN GRAVEL, DAMP, ORGANICS NO PI 1.0' RECOV. 7 13 14 В SP-SM 0.9 5.0' SAME AS ABOVE 1.1' RECOV. 8 11 8 С SP-SM 22.5 CLAY, ORGANICS, BRN, DAMP, LOW TO MOD PI .9'RECOV. WL @ 9 1/2' D 3 4 5 СН 36.2 10.01 1.0' RECOV. ADD WATER DN HOLE CLAY, BRN, SAT, HIGH PI 223 Ε СН 12.5 35.3 CLAY, SAND, BRN, MOD PI 1.1' RECOV. 5 4 4 F SC 24..4 15.0' SAND, SILT, GRAVEL, TAN, NO PI AUGER TO 15' SAMPLE TO 16.5' .5' RECOV. G SM LETTER CLASSIFICATION BASED ON LABORATORY CLASSIFICATION (ASTM D-2487) Note: soil descriptions obtained from samples at depths indicated PROJECT ALBUQUERQUE LEVEES HOLE ENG FORM1836 PREVIOUS EDITIONS ARE OBSOLETE.

File No. AQ05BLB41.AM1 8HSA-41 Hole No DRILLING LOG SOUTH PACIFIC ALBUQUERQUE DISTRICT 10. SIZE AND TYPE OF BIT 8" HSA 2"SS 11. DATUM FOR ELEVATION SHOWN (TBM or MSL) ALBUQUERQUE LEVEES . LOCATION (Coordinates or Station) -106.6895723, 35.112963014 12. MANUFACTURER'S DESIGNATION OF DRILL . DRILLING AGENCY CME 75 TOTAL NO. OF OVER-ALBUQUERQUE DISTRICT DISTURBED UNDISTURBED . HOLE NO. (As shown on drawing title and file number) 8HSA-41 5. NAME OF DRILLER GEOMECHANICS SOUTHWEST INC, JOSE PEREA DIRECTION OF HOLE 15. ELEVATION GROUND WATER 16. DATE HOLE STARTED COMPLETED 19 JUN 06 0934 VERTICAL ☐ INCLINED DEG. FROM VERT. 7. ELEVATION TOP OF HOLE 7. THICKNESS OF OVERBURDEN N/A > 18 TOTAL CORE RECOVERY FOR BORING 8. DEPTH DRILLED INTO ROCK 19. NAME(S) OF INSPECTOR(S) FELIX R MASCARENO TOTAL DEPTH OF HOLE 31.5' BLOW COUNTS SPT TEST MOIST. CONTENT REMARKS (Drilling time, water loss,depth of weathering, etc., if significant) CLASSIFICATION OF MATERIALS (Description) .9' RECOV. 2.6 SILT, SAND, GRAVEL, BRN, DRY, NO PI 9 8 10 Α SM 5.9 SAND, SILT, BRN, DAMP, NO PI .9' RECOV. 8 14 15 В SM 6.5 5.0' SAME AS ABOVE 1.0' RECOV. 10 13 13 С SM4.0 SAND, SILT, FN GRAVEL, TAN, DAMP, NO PI 1.1' RECOV. 7 D SM11 2.0 10.01 7 8 14 FN SAND, SILT, TAN, DAMP, NO PI 1.0' RECOV. Ε SP-SM 18.3 3 6 11 SAND, SILT, BRN, MOIST, NO PI 1.1' RECOV. F 21.2 15.01 SAND, SILT, BRN, MOIST TO SAT, NO PI 1.1' RECOV. 4 2 2 G WL @ 16' SM 17.5' O'RECOV. ADD WATER DN HOLE NO RECOVERY Н 1 2 5 20.0' NO RECOVERY 0' RECOV. 1 1 4 18.4 SAND, FN GRAVEL, TAN, NO PI .9' RECOV. 3 4 J SP 6 25.0' 19.4 SAME AS ABOVE .55' RECOV. 2 3 5 Κ SP 20.7 SAND, SILT, FN GRAVEL, TAN, NO PI .5' RECOV. 4 5 6 L SP-SM 30.0' 23.2 SAND, SILT, FN GRAVEL, TAN, NO PI AUGER TO 30' SAMPLE TO 31.5' .75' RECOV. 3 4 8 М SM LETTER CLASSIFICATION BASED ON LABORATORY CLASSIFICATION (ASTM D-2487) Note: soil descriptions obtained from samples at depths indicated PROJECT ALBUQUERQUE LEVEES HOLE ENG FORM1836 PREVIOUS EDITIONS ARE OBSOLETE.

File No. AQ05BLB42.AM1 8HSA-42 Hole No. DRILLING LOG SOUTH PACIFIC ALBUQUERQUE DISTRICT 10. SIZE AND TYPE OF BIT 8" HSA 2"SS 11. DATUM FOR ELEVATION SHOWN (TBM or MSL) ALBUQUERQUE LEVEES . LOCATION (Coordinates or Station) -106.6897183, 35.112949095 12. MANUFACTURER'S DESIGNATION OF DRILL CME 75 13. TOTAL NO. OF OVER-ALBUQUERQUE DISTRICT DISTURBED UNDISTURBED . HOLE NO. (As shown on drawing title and file number) BURDEN SAMPLES TAKEN 8HSA-42 4. TOTAL NUMBER CORE BOXES . NAME OF DRILLER GEOMECHANICS SOUTHWEST INC, JOSE PEREA 15. ELEVATION GROUND WATER 16. DATE HOLE STARTED COMPLETED 1039 19 JUN 06 VERTICAL INCLINED _ _ DEG. FROM VERT. 7. ELEVATION TOP OF HOLE 7. THICKNESS OF OVERBURDEN N/A × 18, TOTAL CORE RECOVERY FOR BORING 8. DEPTH DRILLED INTO ROCK 19. NAME(S) OF INSPECTOR(S) 16.5' FELIX R MASCARENO TOTAL DEPTH OF HOLE BLOW COUNTS SPT TEST MOIST. CONTENT REMARKS
(Drilling time, water loss,depth of weathering, etc., if significant) CLASSIFICATION OF MATERIALS (Description) .3' RECOV. 3.3 CLAY, SAND, BRN, DRY, LOW PI 3 Α 67 SC 3.2 SAND, SILT, TAN, DAMP, NO PI 1.0' RECOV. 4 5 9 В SP-SM 19.2 5.0' -SAND, TAN, MOIST TO SAT, NO PI 1.1' RECOV. 2 3 8 С WL @ 6 1/2' SP 20.3 SAND, GRAVEL, TAN, NO PI 1.1' RECOV. ADD WATER DN HOLE D 2 2 SP 10.01 NO RECOVERY 0' RECOV. Ε 02 SAND, FN GRAVEL, TAN, NO PI 12.51 15.8 .6' RECOV. F SP 3 SAME AS ABOVE
AUGER TO 15'
SAMPLE TO 16 1/2' 16.6 15.0' .5' RECOV. 3 4 G SP 6 LETTER CLASSIFICATION BASED ON LABORATORY CLASSIFICATION (ASTM D-2487) Note: soil descriptions obtained from samples at depths indicated PROJECT ALBUQUERQUE LEVEES HOLE ENG FORM1836 PREVIOUS EDITIONS ARE OBSOLETE.

File No. AQ05BLB43.AM1 8HSA-43 Hole No. DRILLING LOG SOUTH PACIFIC ALBUQUERQUE DISTRICT 10. SIZE AND TYPE OF BIT 8" HSA 2"SS 11. DATUM FOR ELEVATION SHOWN (TBM or MSL) ALBUQUERQUE LEVEES . LOCATION (Coordinates or Station) -106.6894365, 35.112972449 12. MANUFACTURER'S DESIGNATION OF DRILL ALBUQUERQUE DISTRICT CME 75 13. TOTAL NO. OF OVER-UNDISTURBED . HOLE NO. (As shown on drawing title and file number) 8HSA-43 4. TOTAL NUMBER CORE BOXES 5. NAME OF DRILLER GEOMECHANICS SOUTHWEST INC, JOSE PEREA 15. ELEVATION GROUND WATER 16. DATE HOLE STARTED COMPLETED 1139 19 JUN 06 VERTICAL INCLINED . 7. ELEVATION TOP OF HOLE 7. THICKNESS OF OVERBURDEN N/A > 18, TOTAL CORE RECOVERY FOR BORING 8. DEPTH DRILLED INTO ROCK 19. NAME(S) OF INSPECTOR(S) FELIX R MASCARENO TOTAL DEPTH OF HOLE 16.5' BLOW COUNTS SPT TEST MOIST. CONTENT CLASSIFICATION OF MATERIALS (Description) REMARKS (Drilling time, water loss,depth of weathering, etc., if significant) SAND, SILT, FN GRAVEL, TAN, DRY, NO PI, ORGANICS .8' RECOV. 0.8 2 3 5 Α SW-SM 10.3 SAND, SILT, TAN TO BRN, MOIST TO WET, NO PI 1.2' RECOV. 3 2 В SM 18.4 5.0' SILT, BRN, MOIST, LOW PI 1.0' RECOV. 2 4 3 C ML 19.9 SAND, FN GRAVEL, TAN, WET TO SAT, NO PI 1.0' RECOV. WL @ 7' D 3 6 SP 18.2 10.01 SAME AS ABOVE, GRAVEL TO 1", SILT .7' RECOV. 2 3 4 Ε SP-SM 12.51 16.6 FN GRAVEL, SAND, SILT, TAN, NO PI .7' RECOV. 225 F SP-SM 11.6 15.0' SAND, TAN, NO PI AUGER TO 15' SAMPLE TO 16 1/2' .3' RECOV. G LETTER CLASSIFICATION BASED ON LABORATORY CLASSIFICATION (ASTM D-2487) Note: soil descriptions obtained from samples at depths indicated PROJECT ALBUQUERQUE LEVEES HOLE ENG FORM1836 PREVIOUS EDITIONS ARE OBSOLETE.

File No. AQ05BLB44.AM1 8HSA-44 Hole No DRILLING LOG SOUTH PACIFIC ALBUQUERQUE DISTRICT 10. SIZE AND TYPE OF BIT 8" HSA 2"SS 11. DATUM FOR ELEVATION SHOWN (TBM or MSL) ALBUQUERQUE LEVEES .LOCATION (Coordinates or Station) -106.6853587, 35.130556602 12. MANUFACTURER'S DESIGNATION OF DRILL CME 75 13. TOTAL NO. OF OVER-ALBUQUERQUE DISTRICT DISTURBED UNDISTURBED HOLE NO. (As shown on drawing title and file number) 8HSA-44 5. NAME OF DRILLER GEOMECHANICS SOUTHWEST INC, JOSE PEREA DIRECTION OF HOLE 15. ELEVATION GROUND WATER 16. DATE HOLE STARTED COMPLETED 19 JUN 06 1325 VERTICAL ☐ INCLINED DEG. FROM VERT. 7. ELEVATION TOP OF HOLE 7. THICKNESS OF OVERBURDEN 18 TOTAL CORE RECOVERY FOR BORING N/A > 8. DEPTH DRILLED INTO ROCK 19. NAME(S) OF INSPECTOR(S) FELIX R MASCARENO 31.5' TOTAL DEPTH OF HOLE BLOW COUNTS SPT TEST MOIST. CONTENT REMARKS (Drilling time, water loss,depth of weathering, etc., if significant) CLASSIFICATION OF MATERIALS (Description) d SAND, SILT, GRAVEL, .2' ASPHALT, DRY, NO PI 12 30 18 .9' RECOV. 2.1 Α SM 4.2 FN SAND, SILT, TAN, DAMP, NO PI 1.1' RECOV. В 9 13 SM 4.0 FN SAND, SILT, BRN, DAMP, NO PI 1.1' RECOV. C 5 5 5 SM3.1 FN SAND, SILT, TAN, DAMP, NO PI 1.0' RECOV. D 5 4 5 SM7.8 10.01 FN SAND, SILT, BRN, DAMP, NO PI 4 .3' RECOV. Ε SM4 4.0 FN SAND, SILT, TAN, MOIST, NO PI 1.1' RECOV. 2 3 5 F SP-SM 15.0' 16.7 1.0' RECOV. WL @ 15 1/2' ADD WATER DN HOLE FN SAND, TAN, MOIST TO SAT, NO PI 3 4 4 G 20.8 17.5' FN SAND, TAN, NO PI 1.0' RECOV. 23 Н SP 4 21.0 20.0 SAND, FN GRAVEL, SILT, BRN, NO PI 1.0' RECOV. 1 SP-SM Ó 22.4 22.5' SAND, SILT, BRN, NO PI .75' RECOV. 2 J SM 5 35.0 25.0 CLAY, SAND, BRN, MOD TO HIGH PI 1.0' RECOV. Κ 3 5 СН 27.5 26.1 SAME AS ABOVE 1.0' RECOV. 4 3 3 L СН 30.0' 20.5 CLAY, SAND, BRN, LOW TO MOD PI AUGER TO 30' SAMPLE TO 31.5' 1.0' RECOV. 2 3 4 М CL LETTER CLASSIFICATION BASED ON LABORATORY CLASSIFICATION (ASTM D-2487) Note: soil descriptions obtained from samples at depths indicated PROJECT ALBUQUERQUE LEVEES HOLE ENG FORM1836 PREVIOUS EDITIONS ARE OBSOLETE.

File No. AQ05BLB45.AM1 8HSA-45 Hole No. DRILLING LOG SOUTH PACIFIC ALBUQUERQUE DISTRICT 10. SIZE AND TYPE OF BIT 8" HSA 2"SS 11. DATUM FOR ELEVATION SHOWN (TBM or MSL) ALBUQUERQUE LEVEES 2. LOCATION (Coordinates or Station) -106., 35. 3. DRILLING AGENCY 12. MANUFACTURER'S DESIGNATION OF DRILL CME 75 13. TOTAL NO. OF OVER-ALBUQUERQUE DISTRICT DISTURBED UNDISTURBED . HOLE NO. (As shown on drawing title and file number) 8HSA-45 4. TOTAL NUMBER CORE BOXES 5. NAME OF DRILLER GEOMECHANICS SOUTHWEST INC, JOSE PEREA 15. ELEVATION GROUND WATER 16. DATE HOLE STARTED COMPLETED 1417 19 JUN 06 VERTICAL INCLINED . _ DEG. FROM VERT. 7. ELEVATION TOP OF HOLE 7. THICKNESS OF OVERBURDEN N/A > 18, TOTAL CORE RECOVERY FOR BORING 8. DEPTH DRILLED INTO ROCK 19. NAME(S) OF INSPECTOR(S) FELIX R MASCARENO TOTAL DEPTH OF HOLE 16.5' BLOW COUNTS SPT TEST MOIST. CONTENT REMARKS
(Drilling time, water loss,depth of weathering, etc., if significant) CLASSIFICATION OF MATERIALS (Description) SAND, SILT, GRAVEL, DRY TO DAMP, TAN, NO PI .8' RECOV. 1.7 Α 10 14 SM CLAY, SAND, BRN TO TAN, DAMP, 17.2 1.1' RECOV. 57 В SC 8 10.9 5.0' .9'RECOV. SP-SMWL @ 7' SAND, SILT, TAN, DAMP TO WET, NO PI 4 5 5 С CLAY, SAND, GRAVEL, TAN TO BRN, MOD PI 24.8 1.0' RECOV. ADD WATER DN HOLE D 3 2 3 SC 10.01 NO RECOVERY 0' RECOV. Ε 2 2 12.51 NO RECOVERY 0' RECOV. F 02 15.0' 19.6 SAND, FN GRAVEL, TAN, NO PI AUGER TO 15' SAMPLE TO 16.5' .55' RECOV. 2 1 3 G SP LETTER CLASSIFICATION BASED ON LABORATORY CLASSIFICATION (ASTM D-2487) Note: soil descriptions obtained from samples at depths indicated PROJECT ALBUQUERQUE LEVEES HOLE ENG FORM1836 PREVIOUS EDITIONS ARE OBSOLETE.

File No. AQ05BLB47.AM1 8HSA-47 Hole No. DRILLING LOG SOUTH PACIFIC ALBUQUERQUE DISTRICT 10. SIZE AND TYPE OF BIT 8" HSA 2"SS 11. DATUM FOR ELEVATION SHOWN (TBM or MSL) ALBUQUERQUE LEVEES . LOCATION (Coordinates or Station) -106.6779018, 35.140421707 12. MANUFACTURER'S DESIGNATION OF DRILL CME 75 TOTAL NO. OF OVER-ALBUQUERQUE DISTRICT DISTURBED UNDISTURBED . HOLE NO. (As shown on drawing title and file number) 8HSA-47 4. TOTAL NUMBER CORE BOXES 5. NAME OF DRILLER GEOMECHANICS SOUTHWEST INC, JOSE PEREA 15. ELEVATION GROUND WATER 16. DATE HOLE STARTED COMPLETED 0913 20 JUN 06 VERTICAL INCLINED . 7. ELEVATION TOP OF HOLE 7. THICKNESS OF OVERBURDEN N/A > 18 TOTAL CORE RECOVERY FOR BORING 8. DEPTH DRILLED INTO ROCK 19. NAME(S) OF INSPECTOR(S) FELIX R MASCARENO TOTAL DEPTH OF HOLE 31.5' MOIST. CONTENT CLASSIFICATION OF MATERIALS (Description) (Drilling time, water loss,depth of weathering, etc., if significant) SAND, SILT, GRAVEL, BRN, DRY TO DAMP, NO PI .8' RECOV. 5.6 Α 9 10 SM 6.9 SAND, SILT, TAN, DAMP, NO PI .9' RECOV. В SM 10 6.9 SAND, SILT, BRN, DAMP, NO PI .95' RECOV. 3 8 12 С SM5.2 SAME AS ABOVE 1.0' RECOV. 11 D 14 14 SM12.2 10.01 SAND, CLAY, BRN, MOIST, LOW PI 1.1' RECOV. Ε SC ĕ 1.7 FN SAND, TAN, MOIST, NO PI 1.0' RECOV. 3 4 5 F SP 9.7 15.0' SAND, SILT, TAN, MOIST TO WET, NO PI 1.0' RECOV. 3 4 7 G SP-SM 11.9 17.5' SAND, GRAVEL, TAN, SAT, NO PI .6' RECOV. 4 5 9 SP 14.7 20.0 SAND, TAN, FN GRAVEL, SAT, NO PI .8' RECOV 4 1 ADD WATER DN HOLE SP 15.5 SAND, FN GRAVEL, TAN, NO PI .8' RECOV. 4 J SP 4 5 17.5 25.0' SAME AS ABOVE .2' RECOV. 3 Κ 66 SP 20.7 SAND, SILT, FN GRAVEL, TAN, NO PI .7' RECOV. L 4 5 SM 30.0' 21.4 SILT, SAND, BRN TO GREY, NO PI AUGER TO 30' SAMPLE TO 31.5' 1.1' RECOV. М 10 15 SM LETTER CLASSIFICATION BASED ON LABORATORY CLASSIFICATION (ASTM D-2487) Note: soil descriptions obtained from samples at depths indicated PROJECT ALBUQUERQUE LEVEES HOLE ENG FORM1836 PREVIOUS EDITIONS ARE OBSOLETE.

File No. AQ05BLB48.AM1 8HSA-48 Hole No. DRILLING LOG SOUTH PACIFIC ALBUQUERQUE DISTRICT 10. SIZE AND TYPE OF BIT 8" HSA 2"SS 11. DATUM FOR ELEVATION SHOWN (TBM or MSL) ALBUQUERQUE LEVEES . LOCATION (Coordinates or Station) -106.6777823, 35.14036171 (LONG, LAT) 12. MANUFACTURER'S DESIGNATION OF DRILL ALBUQUERQUE DISTRICT CME 75 13. TOTAL NO. OF OVER-DISTURBED UNDISTURBED . HOLE NO. (As shown on drawing title and file number) BURDEN SAMPLES TAKEN 8HSA-48 4. TOTAL NUMBER CORE BOXES 5. NAME OF DRILLER GEOMECHANICS SOUTHWEST INC, JOSE PEREA 15. ELEVATION GROUND WATER 16. DATE HOLE STARTED COMPLETED 20 JUN 06 _ DEG. FROM VERT. VERTICAL INCLINED 7. ELEVATION TOP OF HOLE 7. THICKNESS OF OVERBURDEN N/A × 18 TOTAL CORE RECOVERY FOR BORING 8. DEPTH DRILLED INTO ROCK 19. NAME(S) OF INSPECTOR(S) FELIX R MASCARENO TOTAL DEPTH OF HOLE 16.5' BLOW COUNTS SPT TEST e MOIST. CONTENT CLASSIFICATION OF MATERIALS (Description) REMARKS (Drilling time, water loss,depth of weathering, etc., if significant) g 1.0' RECOV. 3.0 SILT, TAN, DRY, NO PI 4 11 11 Α ML 1.1 SAND, SILT, TAN, DRY, NO PI 1.0' RECOV. 3 5 5 В SP-SM 1.1 5.0' -FN SAND, TAN, DAMP, NO PI .7' RECOV. С SP 26.5 1.1' RECOV. SP-SMWL @ 9' SAND, SILT, TAN TO GREY, DAMP TO SAT, NO PI D 5 3 2 11.2 10.01 GRAVEL, SAND, TAN, NO PI 1.0' RECOV. ADD WATER DN HOLE Ε 1 0 1 SP SAME AS ABOVE 12.51 14.4 .6' RECOV. 4 3 6 F SP 21.6 15.0' SAND, TAN, NO PI AUGER TO 15' SAMPLE TO 16.5' .4' RECOV. 57 G SP 8 LETTER CLASSIFICATION BASED ON LABORATORY CLASSIFICATION (ASTM D-2487) Note: soil descriptions obtained from samples at depths indicated PROJECT ALBUQUERQUE LEVEES HOLE ENG FORM1836 PREVIOUS EDITIONS ARE OBSOLETE.

File No. AQ05BLB49.AM1 8HSA-49 Hole No DRILLING LOG SOUTH PACIFIC ALBUQUERQUE DISTRICT 10. SIZE AND TYPE OF BIT 8" HSA 2"SS 11. DATUM FOR ELEVATION SHOWN (TBM or MSL) ALBUQUERQUE LEVEES -106.6712987, 35.149799767 (LONG, LAT) 12. MANUFACTURER'S DESIGNATION OF DRILL CME 75 13. TOTAL NO. OF OVER-ALBUQUERQUE DISTRICT DISTURBED UNDISTURBED . HOLE NO. (As shown on drawing title and file number) 8HSA-49 4. TOTAL NUMBER CORE BOXES 5. NAME OF DRILLER GEOMECHANICS SOUTHWEST INC, JOSE PEREA 15. ELEVATION GROUND WATER 16. DATE HOLE STARTED COMPLETED 1140 20 JUN 06 VERTICAL INCLINED _ 7. ELEVATION TOP OF HOLE 7. THICKNESS OF OVERBURDEN N/A > 18 TOTAL CORE RECOVERY FOR BORING 8. DEPTH DRILLED INTO ROCK 19. NAME(S) OF INSPECTOR(S) FELIX R MASCARENO TOTAL DEPTH OF HOLE 31.5' MOIST. CONTENT CLASSIFICATION OF MATERIALS (Description) REMARKS (Drilling time, water loss,depth of weathering, etc., if significant) SAND, SILT, GRAVEL, ORGANICS, TAN TO BRN, DRY TO DAMP, NO PI 10 10 9 1.1' RECOV. 4.1 Α SM 13.0 SAND, SILT, BRN, DAMP, NO PI 5 6 10 .9' RECOV. В SM 9.7 5.0' SAME AS ABOVE 1.1' RECOV. 6 С SM10 9.7 SAND, SILT, FN GRAVEL, BRN, DAMP, NO PI .9' RECOV. 7 D 5 SM21.2 10.01 SILT, FN GRAVEL, BRN, MOIST, NO PI .75' RECOV. 223 Ε ML9.5 SAND, SILT, TAN, MOIST, NO PI 1.2' RECOV. 4 4 10 F SM 7.2 15.0' SAND, FN TO COARSE, SILT, MOIST TO WET, TAN, NO PI 1.2' RECOV. 4 8 10 G SP-SM 11.5 17.5 SAND, FN GRAVEL, TAN, WET TO SAT, NO PI .8' RECOV. 4 5 6 Н SP 12.7 20.0 SAND, FN GRAVEL, TAN, NO PI .9' RECOV 2 5 6 1 ADD WATER DN HOLE SP 17.7 SAND, FN GRAVEL, TAN, NO PI .8' RECOV. 3 5 4 J SW 0.7 25.0' SAND, FN GRAVEL, TAN, NO PI .6' RECOV. Κ SP 8 27.5' 19.4 SAME AS ABOVE .5' RECOV. 223 L SP 30.0' NO RECOVERY AUGER TO 30' SAMPLE TO 31.5' 0' RECOV. 5 8 10 М LETTER CLASSIFICATION BASED ON LABORATORY CLASSIFICATION (ASTM D-2487) Note: soil descriptions obtained from samples at depths indicated PROJECT ALBUQUERQUE LEVEES HOLE ENG FORM1836 PREVIOUS EDITIONS ARE OBSOLETE.

File No. AQ05BLB50.AM1 8HSA-50 Hole No. DRILLING LOG SOUTH PACIFIC ALBUQUERQUE DISTRICT 10. SIZE AND TYPE OF BIT 8" HSA 2"SS 11. DATUM FOR ELEVATION SHOWN (TBM or MSL) ALBUQUERQUE LEVEES 2. LOCATION (Coordinates or Station) -106.6711627, 35.149748006 (LONG, LAT) 3. DRILLING AGENCY 12. MANUFACTURER'S DESIGNATION OF DRILL CME 75 13. TOTAL NO. OF OVER-ALBUQUERQUE DISTRICT DISTURBED UNDISTURBED . HOLE NO. (As shown on drawing title and file number) BURDEN SAMPLES TAKEN 8HSA-50 4. TOTAL NUMBER CORE BOXES NAME OF DRILLER GEOMECHANICS SOUTHWEST INC, JOSE PEREA 15. ELEVATION GROUND WATER 16. DATE HOLE STARTED COMPLETED 1233 20 JUN 06 VERTICAL INCLINED _ _ DEG. FROM VERT. 7. ELEVATION TOP OF HOLE 7. THICKNESS OF OVERBURDEN N/A × 18 TOTAL CORE RECOVERY FOR BORING 8. DEPTH DRILLED INTO ROCK 19. NAME(S) OF INSPECTOR(S) 16.5' FELIX R MASCARENO TOTAL DEPTH OF HOLE BLOW COUNTS SPT TEST e MOIST. CONTENT REMARKS
(Drilling time, water loss,depth of weathering, etc., if significant) CLASSIFICATION OF MATERIALS (Description) SAND, CLAY, GRAVEL, ORGANICS, TAN TO DK BRN, DRY TO DAMP, MOD TO HIGH PI .7' RECOV. 8.8 3 5 5 Α СН 3.9 SAND, SILT, TAN, DAMP, NO PI .9' RECOV. 57 В SM 6 2.9 5.0' -SAND, TAN, DAMP TO WET, NO PI .8' RECOV. С SP 4 17.6 SAND, FN GRAVEL, TAN, WET TO SAT, 1.0' RECOV. SL @ 9' ADD WATER DN HOLE D 2 2 3 SP 10.01 NO RECOVERY 0' RECOV. Ε ż FN GRAVEL, SAND, TAN, NO PI 12.51 14.3 .8' RECOV. 3 4 4 F SP 11.0 15.0' ------SAME AS ABOVE AUGER TO 15' SAMPLE TO 16.5' .4' RECOV. 3 4 7 G SP LETTER CLASSIFICATION BASED ON LABORATORY CLASSIFICATION (ASTM D-2487) Note: soil descriptions obtained from samples at depths indicated PROJECT ALBUQUERQUE LEVEES HOLE ENG FORM1836 PREVIOUS EDITIONS ARE OBSOLETE.

File No. AQ05BLB51.AM1 8HSA-51 Hole No DRILLING LOG SOUTH PACIFIC ALBUQUERQUE DISTRICT 10. SIZE AND TYPE OF BIT 8" HSA 2"SS 11. DATUM FOR ELEVATION SHOWN (TBM or MSL) ALBUQUERQUE LEVEES -106.6642493, 35.161631583 (LONG, LAT) 12. MANUFACTURER'S DESIGNATION OF DRILL ALBUQUERQUE DISTRICT CME 75 TOTAL NO. OF OVER-DISTURBED UNDISTURBED . HOLE NO. (As shown on drawing title and file number) BURDEN SAMPLES TAKEN 8HSA-51 4. TOTAL NUMBER CORE BOXES 5. NAME OF DRILLER GEOMECHANICS SOUTHWEST INC, JOSE PEREA 15. ELEVATION GROUND WATER 16. DATE HOLE STARTED COMPLETED 1401 20 JUN 06 VERTICAL INCLINED _ DEG. FROM VERT. 7. ELEVATION TOP OF HOLE 7. THICKNESS OF OVERBURDEN N/A > 18 TOTAL CORE RECOVERY FOR BORING 8. DEPTH DRILLED INTO ROCK 19. NAME(S) OF INSPECTOR(S) FELIX R MASCARENO TOTAL DEPTH OF HOLE 31.5' BLOW COUNTS SPT TEST MOIST. CONTENT CLASSIFICATION OF MATERIALS (Description) (Drilling time, water loss,depth of weathering, etc., if significant) SAND, SILT, FN GRAVEL, TAN TO BRN, DRY TO DAMP, LOW PI .8' RECOV. 4.5 13 7 Α SM 6 17.0 CLAY, BRN, DAMP, LOW PI .9' RECOV. 3 4 В CL 12.1 5.0' CLAY, SAND, SILT BRN, DAMP, LOW PI .85' RECOV. С 4 9 14 SC-SM 8.4 SAND, CLAY, SILT, BRN, DAMP, LOW PI 1.1' RECOV. D 8 13 17 SC-SM 9.5 10.01 CLAY, SILT, BRN, DAMP, LOW PI 4 .6' RECOV. Ε CL 11 1.9 SAND, TAN, DAMP, NO PI 1.0' RECOV. 2 3 5 F SP 15.0' 1.6 SAND, FN GRAVEL, TAN, MOIST, NO PI 1.0' RECOV. 4 G SP WL @ 17' 6 16.4 SAND, FN GRAVEL, TAN, SAT, NO PI 9' RECOV Н 1 3 5 ADD WATER DN HOLE SW 15.9 20.0 SAND, FN GRAVEL, TAN, NO PI .8' RECOV. 1 1 SP 22.5' NO RECOVERY 0' RECOV. 5 6 6 J 25.0' 16.6 SAND, FN GRAVEL, TAN, NO PI .5' RECOV. 3 9 7 Κ SP 27.5 20.4 SAND, FN GRAVEL, SILT, TAN TO BRN, NO PI .8' RECOV. L 8 7 SM 30.0' 29.1 CLAY, SAND, FN GRAVEL, TAN TO BRN, MOD PI AUGER TO 30' SAMPLE TO 31.5' .8' RECOV. 233 М CL LETTER CLASSIFICATION BASED ON LABORATORY CLASSIFICATION (ASTM D-2487) Note: soil descriptions obtained from samples at depths indicated PROJECT ALBUQUERQUE LEVEES HOLE ENG FORM1836 PREVIOUS EDITIONS ARE OBSOLETE.

File No. AQ05BLB52.AM1 8HSA-52 Hole No. DRILLING LOG SOUTH PACIFIC ALBUQUERQUE DISTRICT 10. SIZE AND TYPE OF BIT 8" HSA 2"SS 11. DATUM FOR ELEVATION SHOWN (TBM or MSL) ALBUQUERQUE LEVEES -106.6641954, 35.16152601 (LONG, LAT) 12. MANUFACTURER'S DESIGNATION OF DRILL CME 75 13. TOTAL NO. OF OVER-ALBUQUERQUE DISTRICT DISTURBED UNDISTURBED . HOLE NO. (As shown on drawing title and file number) BURDEN SAMPLES TAKEN 8HSA-52 4. TOTAL NUMBER CORE BOXES . NAME OF DRILLER GEOMECHANICS SOUTHWEST INC, JOSE PEREA DIRECTION OF HOLE 15. ELEVATION GROUND WATER 16. DATE HOLE STARTED COMPLETED 0838 21 JUN 06 _ DEG. FROM VERT. VERTICAL INCLINED 7. ELEVATION TOP OF HOLE 7. THICKNESS OF OVERBURDEN N/A × 18, TOTAL CORE RECOVERY FOR BORING 8. DEPTH DRILLED INTO ROCK 19. NAME(S) OF INSPECTOR(S) 16.5' FELIX R MASCARENO/WILLIAM SHUTER TOTAL DEPTH OF HOLE BLOW COUNTS SPT TEST MOIST. CONTENT REMARKS (Drilling time, water loss,depth of weathering, etc., if significant) g CLASSIFICATION OF MATERIALS (Description) 0' RECOV. NO RECOVERY 6 10 9 Α 8.4 CLAY, SAND, BRN, DRY, LOW PI .35' RECOV. В 6 5 6 CL 4.5 5.0' FN SAND, SILT, TAN, DAMP, NO PI .8' RECOV. 2 С SP-SM 4 11.7 SAND, FN GRAVEL, TAN, DAMP TO SAT, NO PI .85' RECOV. WL @ 8 1/2' D 2 3 5 SP 16.9 10.01 SAME AS ABOVE 1.1' RECOV. ADD WATER DN HOLE Ε 02 SP 12.51 15.2 SAND, FN GRAVEL, TAN, NO PI .55' RECOV. 4 5 5 F SP 14.0 15.0' SAND, GRAVEL, TAN, NO PI AUGER TO 15' SAMPLE TO 16.5' .6' RECOV. 2 2 5 G SP LETTER CLASSIFICATION BASED ON LABORATORY CLASSIFICATION (ASTM D-2487) Note: soil descriptions obtained from samples at depths indicated PROJECT ALBUQUERQUE LEVEES HOLE ENG FORM1836 PREVIOUS EDITIONS ARE OBSOLETE.

File No. AQ05BLB53.AM1 8HSA-53 Hole No DRILLING LOG SOUTH PACIFIC ALBUQUERQUE DISTRICT 10. SIZE AND TYPE OF BIT 8" HSA 2"SS 11. DATUM FOR ELEVATION SHOWN (TBM or MSL) ALBUQUERQUE LEVEES . LOCATION (Coordinates or Station) -106.654697, 35.168859238 (LONG, LAT) 12. MANUFACTURER'S DESIGNATION OF DRILL CME 75 TOTAL NO. OF OVER-ALBUQUERQUE DISTRICT UNDISTURBED . HOLE NO. (As shown on drawing title and file number) 8HSA-53 5. NAME OF DRILLER GEOMECHANICS SOUTHWEST INC, JOSE PEREA 15. ELEVATION GROUND WATER 16. DATE HOLE STARTED 21 JUN 06 0950 VERTICAL INCLINED 7. ELEVATION TOP OF HOLE 7. THICKNESS OF OVERBURDEN N/A > 18, TOTAL CORE RECOVERY FOR BORING 8. DEPTH DRILLED INTO ROCK 19. NAME(S) OF INSPECTOR(S) FELIX R MASCARENO/WILLIAM SHUTER TOTAL DEPTH OF HOLE 31.5' BLOW COUNTS SPT TEST MOIST. CONTENT REMARKS (Drilling time, water loss,depth of weathering, etc., if significant) g CLASSIFICATION OF MATERIALS (Description) d SILT, SAND, FN GRAVEL, BRN, DRY, NO PI 20 13 10 .4' RECOV. 2.4 Α SM 5.3 SAND, SILT, FN GRAVEL, BRN, DAMP, NO PI .9' RECOV. 5 3 5 В SM 5.0' NO RECOVERY 0' RECOV. 47 C 7 4.8 SAND, SILT, BRN, MOIST, NO PI 1.1' RFCOV. 8 10 18 D SM4.0 10.01 SAND, SILT, ORGANICS, TAN, MOIST, NO PI .65' RECOV. Ε SM1.0 FN SAND, SILT, TAN, MOIST, NO PI 5 6 10 1.0' RECOV. F SM 15.0' 1.0 SAME AS ABOVE 1.0' RECOV. 6 8 13 G SP-SM 9.5 17.5 SAND, SILT, TAN, MOIST TO WET, NO PI 1.0' RECOV. 57 SP-SMWL @ 19' 10 23.2 20.0 SAND, SILT, ORGANICS, FN GRAVEL, BRN, SAT, NO PI .85' RECOV. ADD WATER DN HOLE 5 8 9 1 SM SAND, COARSE TO FN, FN GRAVEL, TAN, NO PI 22.2 1.1' RECOV. 1 J SP 3 7 25.0' 0' RECOV. NO RECOVERY K 22.4 SAND, FN GRAVEL, CLAY, TAN TO BRN, SILT, LOW PI .9' RECOV. 2 L 6 3 SC-SM 30.0' 24.5 SILT, TAN TO DK GREEN, NO PI AUGER TO 30' SAMPLE TO 31.5' .6' RECOV. М ML LETTER CLASSIFICATION BASED ON LABORATORY CLASSIFICATION (ASTM D-2487) Note: soil descriptions obtained from samples at depths indicated PROJECT ALBUQUERQUE LEVEES HOLE ENG FORM1836 PREVIOUS EDITIONS ARE OBSOLETE.

File No. AQ05BLB54.AM1 8HSA-54 Hole No. DRILLING LOG SOUTH PACIFIC ALBUQUERQUE DISTRICT 10. SIZE AND TYPE OF BIT 8" HSA 2"SS 11. DATUM FOR ELEVATION SHOWN (TBM or MSL) ALBUQUERQUE LEVEES .LOCATION (Coordinates or Station) -106.654808, 35.168789594 (LONG, LAT) 12. MANUFACTURER'S DESIGNATION OF DRILL CME 75 13. TOTAL NO. OF OVER-ALBUQUERQUE DISTRICT DISTURBED UNDISTURBED . HOLE NO. (As shown on drawing title and file number) BURDEN SAMPLES TAKEN 8HSA-54 4. TOTAL NUMBER CORE BOXES 5. NAME OF DRILLER GEOMECHANICS SOUTHWEST INC, JOSE PEREA DIRECTION OF HOLE 15. ELEVATION GROUND WATER 16. DATE HOLE STARTED COMPLETED 1046 21 JUN 06 _ DEG. FROM VERT. VERTICAL INCLINED . 7. ELEVATION TOP OF HOLE 7. THICKNESS OF OVERBURDEN N/A × 18, TOTAL CORE RECOVERY FOR BORING 8. DEPTH DRILLED INTO ROCK 19. NAME(S) OF INSPECTOR(S) FELIX R MASCARENO/WILLIAM SHUTER TOTAL DEPTH OF HOLE 16.5 BLOW COUNTS SPT TEST MOIST. CONTENT REMARKS (Drilling time, water loss,depth of weathering, etc., if significant) g CLASSIFICATION OF MATERIALS (Description) .7' RECOV. 1.8 SAND, SILT, FN GRAVEL, BRN, DRY, NO PI Α ġ 4.2 SAND, CLAY, SILT, BRN, DAMP, LOW PI .8' RECOV. 3 3 3 В SC-SM 4.6 5.0' SAND, FN TO COARSE, BRN TO TAN, SILT, FN GRAVEL, DAMP, NO PI 2 1.1' RECOV. С SMż 6.8 SAND, FN TO COARSE, TAN, DAMP TO SAT, FN GRAVEL 1.05' RECOV. WL @ 9' D 4 2 5 SW 14.1 10.01 SAND, FN GRAVEL, TAN, NO PI 1.0' RECOV. ADD WATER DN HOLE Ε 1 2 5 SP 12.51 17.6 SAME AS ABOVE .6' RECOV. 2 4 3 F SP 22.2 15.0' FN SAND, TAN, NO PI AUGER TO 15' SAMPLE TO 16.5' .4' RECOV. 3 G SP 10 LETTER CLASSIFICATION BASED ON LABORATORY CLASSIFICATION (ASTM D-2487) Note: soil descriptions obtained from samples at depths indicated PROJECT ALBUQUERQUE LEVEES HOLE ENG FORM1836 PREVIOUS EDITIONS ARE OBSOLETE.

File No. AQ05BLB55.AM1 8HSA-55 Hole No DRILLING LOG SOUTH PACIFIC ALBUQUERQUE DISTRICT 10. SIZE AND TYPE OF BIT 8" HSA 2"SS 11. DATUM FOR ELEVATION SHOWN (TBM or MSL) ALBUQUERQUE LEVEES 2. LOCATION (Coordinates or Station).
-106., 35. (LONG, LAT)
3. DRILLING AGENCY
ALBUQUERQUE DISTRICT 12. MANUFACTURER'S DESIGNATION OF DRILL CME 75 13. TOTAL NO. OF OVER-. HOLE NO. (As shown on drawing title and file number) 8HSA-55 5. NAME OF DRILLER GEOMECHANICS SOUTHWEST INC, JOSE PEREA DIRECTION OF HOLE 15. ELEVATION GROUND WATER 16. DATE HOLE STARTED 22 JUN 06 0920 VERTICAL ☐ INCLINED 7. ELEVATION TOP OF HOLE 7. THICKNESS OF OVERBURDEN N/A > 18, TOTAL CORE RECOVERY FOR BORING 8. DEPTH DRILLED INTO ROCK 19. NAME(S) OF INSPECTOR(S) FELIX R MASCARENO/WILLIAM SHUTER TOTAL DEPTH OF HOLE 31.5' BLOW COUNTS SPT TEST MOIST. CONTENT REMARKS (Drilling time, water loss,depth of weathering, etc., if significant) g CLASSIFICATION OF MATERIALS (Description) SILT, CLAY, ORGANICS, BRN, DRY, LOW - MOD PI .7' RECOV. 1.9 Α 16 25 SC-SM 8.7 SILT, SAND, BRN, DAMP, NO PI .8' RECOV. 12 16 16 В SM 13.9 5.0' SAND, CLAY, SILT, BRN, DAMP, LOW PI 9 21 27 1.0' RECOV. С SC-SM 7.4 CLAY, SAND, FN GRAVEL, DAMP, LOW PI 1.1' RECOV. D 5 11 17 SC 8.1 10.01 SILT, SAND, BRN TO DK BRN, DAMP, LOW PI, FN GRAVEL 19 31 32 1.1' RECOV. Ε SM4.6 SAND, CLAY, BRN, DAMP, LOW PI .5' RECOV. 10 F 11 SC 9 15.0' 8.4 SILT, SAND, BRN, MOIST, NO PI .65' RECOV. 4 2 7 G SM 9.2 17.5 SAND, SILT, FN GRAVEL, TAN, NO PI, GRAVEL TO 1" .9' RECOV. 9 11 11 SP-SMWL @ 18 1/2' 12.1 20.0' SAND, SILT, FN GRAVEL, TAN, NO PI 2 .8' RECOV 1 ADD WATER DN HOLE SM 4 22.5' NO RECOVERY 0' RECOV. 2 2 3 J 12.7 SAND, FN GRAVEL, TAN, NO PI .8' RECOV. 3 5 Κ SP 14.3 SAME AS ABOVE .7' RECOV. 3 L 43 SP 30.0' 12.2 SAND, FN GRAVEL, TAN, NO PI, GRAVEL TO 11/2" AUGER TO 30' SAMPLE TO 31.5' .8' RECOV. М SP LETTER CLASSIFICATION BASED ON LABORATORY CLASSIFICATION (ASTM D-2487) Note: soil descriptions obtained from samples at depths indicated PROJECT ALBUQUERQUE LEVEES HOLE ENG FORM1836 PREVIOUS EDITIONS ARE OBSOLETE.

File No. AQ05BLB56.AM1 8HSA-56 Hole No. DRILLING LOG SOUTH PACIFIC ALBUQUERQUE DISTRICT 10. SIZE AND TYPE OF BIT 8" HSA 2"SS 11. DATUM FOR ELEVATION SHOWN (TBM or MSL) ALBUQUERQUE LEVEES 2. LOCATION (Coordinates or Station).
-106., 35. (LONG, LAT)
3. DRILLING AGENCY
ALBUQUERQUE DISTRICT 12. MANUFACTURER'S DESIGNATION OF DRILL CME 75 13. TOTAL NO. OF OVER-UNDISTURBED . HOLE NO. (As shown on drawing title and file number) 8HSA-56 TOTAL NUMBER CORE BOXES . NAME OF DRILLER GEOMECHANICS SOUTHWEST INC, JOSE PEREA 15. ELEVATION GROUND WATER 16. DATE HOLE STARTED 1009 22 JUN 06 VERTICAL ☐ INCLINED 7. ELEVATION TOP OF HOLE 7. THICKNESS OF OVERBURDEN N/A > 18, TOTAL CORE RECOVERY FOR BORING 8. DEPTH DRILLED INTO ROCK 19. NAME(S) OF INSPECTOR(S) FELIX R MASCARENO/WILLIAM SHUTER TOTAL DEPTH OF HOLE 16.5' BLOW COUNTS SPT TEST MOIST. CONTENT REMARKS (Drilling time, water loss,depth of weathering, etc., if significant) g CLASSIFICATION OF MATERIALS (Description) SAND, SILT, ORGANICS, TAN, DRY, NO PI .8' RECOV. 1.4 223 Α SM 3.8 SILT, SAND, FN GRAVEL, BRN, DAMP, NO PI .5' RECOV. В 10 12 SM 1.9 5.0' SAND, SILT, FN GRAVEL, TAN, DAMP, NO PI .9' RECOV. 5 8 11 С SP-SM 14.1 SAND, CLAY, FN GRAVEL, TAN, SAT, LOW PI .5'RECOV. SP-SCWL @ 8 1/2' D 3 2 4 7.4 10.01 FN GRAVEL, SAND, TAN, NO PI, GRAVEL TO 1" .6'RECOV. ADD WATER DN HOLE 2 0 1 Ε GΡ 12.51 17.2 SAND, TAN, NO PI .85' RECOV. F SP 12.8 15.0' SAND, FN GRAVEL, TAN, NO PI AUGER TO 15' SAMPLE TO 16.5' .55' RECOV. G 4 5 SP LETTER CLASSIFICATION BASED ON LABORATORY CLASSIFICATION (ASTM D-2487) Note: soil descriptions obtained from samples at depths indicated PROJECT ALBUQUERQUE LEVEES HOLE ENG FORM1836 PREVIOUS EDITIONS ARE OBSOLETE.

File No. AQ05BLB57.AM1 8HSA-57 Hole No DRILLING LOG SOUTH PACIFIC ALBUQUERQUE DISTRICT 10. SIZE AND TYPE OF BIT 8" HSA 2"SS 11. DATUM FOR ELEVATION SHOWN (TBM or MSL) ALBUQUERQUE LEVEES .LOCATION (Coordinates or Station) -106.5966220, 35.220795042 (LONG, LAT) 12. MANUFACTURER'S DESIGNATION OF DRILL CME 75 TOTAL NO. OF OVER-ALBUQUERQUE DISTRICT UNDISTURBED . HOLE NO. (As shown on drawing title and file number) 8HSA-57 5. NAME OF DRILLER GEOMECHANICS SOUTHWEST INC, JOSE PEREA 15. ELEVATION GROUND WATER 16. DATE HOLE STARTED 22 JUN 06 VERTICAL ☐ INCLINED 7. ELEVATION TOP OF HOLE 7. THICKNESS OF OVERBURDEN N/A > 18, TOTAL CORE RECOVERY FOR BORING 8. DEPTH DRILLED INTO ROCK 19. NAME(S) OF INSPECTOR(S) FELIX R MASCARENO/WILLIAM SHUTER TOTAL DEPTH OF HOLE 31.5' BLOW COUNTS SPT TEST MOIST. CONTENT REMARKS (Drilling time, water loss,depth of weathering, etc., if significant) g CLASSIFICATION OF MATERIALS (Description) d .5' RECOV. 2.8 CLAY, SILT, ORGANICS, BRN, DRY, NO PI 3 5 17 Α CL-ML SAND, SILT, FN GRAVEL, BRN, DRY, LOW PI 4.3 1.3' RECOV. 11 12 16 В SM 7.4 SAME AS ABOVE, DAMP 1.1' RECOV. 12 13 С SM16 7.1 SAND, SILT, BRN, DAMP, NO PI 1.2' RECOV. D 9 10 13 SM7.5 10.01 10 11 17 SILT, BRN, DAMP, LOW PI 1.0' RECOV. Ε MLSILT, SAND, BRN, ORGANICS, DAMP, 7.5 .7' RECOV. 6 F SM 12 6.7 15.01 SAND, SILT, TAN, MOIST, NO PI 1.0' RECOV. 3 4 G SM ġ 16.5 SAND, FN GRAVEL, TAN, SAT, NO PI 1.0' RECOV. 3 4 5 SP 16.5 SAND, FN GRAVEL, BRN TO GREY, NO PI 2 1.3' RECOV 1 ADD WATER DN HOLE 4 12.6 SAME AS ABOVE, GRAVEL TO 11/2", SILT 3 .3' RECOV. J SP-SM 25.0' 16.4 COARSE SAND, FN GRAVEL, TAN, NO PI .8' RECOV. 3 5 Κ SP 16.7 SAME AS ABOVE .9' RECOV. 3 2 4 L SP 30.0' 15.5 SAME AS ABOVE AUGER TO 30' SAMPLE TO 31.5' .5' RECOV. 4 М 6 12 SP LETTER CLASSIFICATION BASED ON LABORATORY CLASSIFICATION (ASTM D-2487) Note: soil descriptions obtained from samples at depths indicated PROJECT ALBUQUERQUE LEVEES HOLE ENG FORM1836 PREVIOUS EDITIONS ARE OBSOLETE.

File No. AQ05BLB58.AM1 8HSA-58 Hole No DRILLING LOG SOUTH PACIFIC ALBUQUERQUE DISTRICT 10. SIZE AND TYPE OF BIT 8" HSA 2"SS 11. DATUM FOR ELEVATION SHOWN (TBM or MSL) ALBUQUERQUE LEVEES .LOCATION (Coordinates or Station) -106.6031443, 35.212907255 (LONG, LAT) 12. MANUFACTURER'S DESIGNATION OF DRILL CME 75 TOTAL NO. OF OVER-ALBUQUERQUE DISTRICT DISTURBED UNDISTURBED . HOLE NO. (As shown on drawing title and file number) 8HSA-58 4. TOTAL NUMBER CORE BOXES 5. NAME OF DRILLER GEOMECHANICS SOUTHWEST INC, JOSE PEREA 15. ELEVATION GROUND WATER 16. DATE HOLE STARTED COMPLETED 22 JUN 06 1243 VERTICAL ☐ INCLINED _ DEG. FROM VERT. 7. ELEVATION TOP OF HOLE 7. THICKNESS OF OVERBURDEN N/A > 18, TOTAL CORE RECOVERY FOR BORING 8. DEPTH DRILLED INTO ROCK 19. NAME(S) OF INSPECTOR(S) FELIX R MASCARENO/WILLIAM SHUTER TOTAL DEPTH OF HOLE 31.5' BLOW COUNTS SPT TEST MOIST. CONTENT REMARKS (Drilling time, water loss,depth of weathering, etc., if significant) g CLASSIFICATION OF MATERIALS (Description) d .6' RECOV. 2.7 SILT, SAND, ORGANICS, TAN, DRY, NO PI 14 17 19 Α SM 4.0 SILT, FN SAND, TAN, DRY, NO PI 1.1' RECOV. 8 В SM 11 5.3 5.0' SILT, SAND, FN GRAVEL, TAN, DAMP, NO PI .9' RECOV. С 8 10 18 SM4.9 SILT, SAND, TAN, DAMP, NO PI 1.3' RECOV. 7 D 10 20 SM5.6 10.01 8 14 10 SILT, SAND, BRN TO TAN, DAMP, NO PI .8' RECOV. Ε SM8.7 SILT, MOIST, BRN, NO PI .8' RECOV. 4 7 F ML 2.5 15.0' SAND, SILT, TAN, MOIST, NO PI 1.0' RECOV. 5 4 11 G SP-SM 12.4 17.5 SAND, TAN, MOIST TO SAT, NO PI 1.0' RECOV. 5 6 12 Н SP 14.4 20.0 SAND, TAN, SAT, NO PI 1.1' RECOV. 3 3 9 1 ADD WATER DN HOLE SP 15.0 SAND, GREY, NO PI 1.0' RECOV. 2 2 J SP 9.4 25.0' SAND, FN GRAVEL, TAN, NO PI .8' RECOV. 2 3 4 Κ SP SAND, GRAVEL TO 11/2", GREY, NO PI 4.3 11 12 10 .8' RECOV. L GP 30.0' 8.6 SAND, GRAVEL, GREY, NO PI AUGER TO 30' SAMPLE TO 31.5' .6' RECOV. 658 М SP LETTER CLASSIFICATION BASED ON LABORATORY CLASSIFICATION (ASTM D-2487) Note: soil descriptions obtained from samples at depths indicated PROJECT ALBUQUERQUE LEVEES HOLE ENG FORM1836 PREVIOUS EDITIONS ARE OBSOLETE.

File No. AQ05BLB60.AM1 8HSA-60 Hole No DRILLING LOG SOUTH PACIFIC ALBUQUERQUE DISTRICT 10. SIZE AND TYPE OF BIT 8" HSA 2"SS 11. DATUM FOR ELEVATION SHOWN (TBM or MSL) ALBUQUERQUE LEVEES 2. LOCATION (Coordinates or Station):
-106., 35. (LONG, LAT)
3. DRILLING AGENCY
ALBUQUERQUE DISTRICT 12. MANUFACTURER'S DESIGNATION OF DRILL CME 75 TOTAL NO. OF OVER-UNDISTURBED . HOLE NO. (As shown on drawing title and file number) 8HSA-60 5. NAME OF DRILLER GEOMECHANICS SOUTHWEST INC, JOSE PEREA 15. ELEVATION GROUND WATER 16. DATE HOLE STARTED COMPLETED 23 JUN 06 0921 VERTICAL INCLINED 7. ELEVATION TOP OF HOLE 7. THICKNESS OF OVERBURDEN N/A > 18 TOTAL CORE RECOVERY FOR BORING 8. DEPTH DRILLED INTO ROCK 19. NAME(S) OF INSPECTOR(S) FELIX R MASCARENO/WILLIAM SHUTER TOTAL DEPTH OF HOLE 31.5' BLOW COUNTS SPT TEST MOIST. CONTENT REMARKS (Drilling time, water loss,depth of weathering, etc., if significant) g CLASSIFICATION OF MATERIALS (Description) .9' RECOV. 3.6 SILT, BRN, DRY, ORGANICS, NO PI Α 15 13 ML SILT, FN SAND, FN GRAVEL, BRN, DRY, NO PI 7.7 .8' RECOV. 13 10 19 В ML 6.0 5.0' CLAY, SILT, SAND, BRN, DRY, LOW PI 1.1' RECOV. С 10 14 17 CL-ML 7.2 CLAY, SILT, BRN, DRY, LOW PI 13 14 17 .8' RECOV. D CL-ML CLAY, SILT, FN SAND, GRAVEL, BRN, DRY, LOW PI 5.5 10.01 .9' RECOV. 7 8 7 Ε CL-ML 12.51 2.5 FN SAND, SILT, ORGANICS, FN GRAVEL, BRN TO TAN, MOIST, NO PI 8 10 10 .9' RECOV. F SM 1.8 15.0' SAND, FN TO COARSE, SILT, FN GRAVEL TAN, NO PI 1.0' RECOV. 3 5 G SM 1.2 1.0' RECOV SAND, TAN, MOIST, NO PI 6 4 7 Н WL @ 19 1/2' SP 9.9 20.0 SAND, FN GRAVEL, TAN, SAT, GRAVEL TO 13/4" IN TIP OF SHOE, NO PI .8' RECOV 3 6 10 1 ADD WATER DN HOLE SP 19.9 SAND, SILT, FN GRAVEL, BRN, NO PI .7' RECOV. 4 J SM 25.0' 15.3 SAND, FN GRAVEL, BRN, NO PI .5' RECOV. 4 4 6 Κ SP 15.0 SAND, FN GRAVEL, TAN, NO PI .5' RECOV. L SP 30.0' 12.6 SAME AS ABOVE AUGER TO 30' SAMPLE TO 31.5' .8' RECOV. 4 4 8 М SP LETTER CLASSIFICATION BASED ON LABORATORY CLASSIFICATION (ASTM D-2487) Note: soil descriptions obtained from samples at depths indicated PROJECT ALBUQUERQUE LEVEES HOLE ENG FORM1836 PREVIOUS EDITIONS ARE OBSOLETE.

File No. AQ05BLB61.AM1 8HSA-61 Hole No DRILLING LOG SOUTH PACIFIC ALBUQUERQUE DISTRICT 10. SIZE AND TYPE OF BIT 8" HSA 2"SS 11. DATUM FOR ELEVATION SHOWN (TBM or MSL) ALBUQUERQUE LEVEES 2. LOCATION (Coordinates or Station):
-106., 35. (LONG, LAT)
3. DRILLING AGENCY
ALBUQUERQUE DISTRICT 12. MANUFACTURER'S DESIGNATION OF DRILL CME 75 TOTAL NO. OF OVER-UNDISTURBED . HOLE NO. (As shown on drawing title and file number) 8HSA-61 5. NAME OF DRILLER GEOMECHANICS SOUTHWEST INC, JOSE PEREA 15. ELEVATION GROUND WATER 16. DATE HOLE STARTED 1004 23 JUN 06 VERTICAL INCLINED 7. ELEVATION TOP OF HOLE 7. THICKNESS OF OVERBURDEN N/A > 18, TOTAL CORE RECOVERY FOR BORING 8. DEPTH DRILLED INTO ROCK 19. NAME(S) OF INSPECTOR(S) FELIX R MASCARENO/WILLIAM SHUTER TOTAL DEPTH OF HOLE 16.5 BLOW COUNTS SPT TEST MOIST. CONTENT REMARKS (Drilling time, water loss,depth of weathering, etc., if significant) g CLASSIFICATION OF MATERIALS (Description) d .4' RECOV. 3.0 CLAY, BRN, DRY, ORGANICS, LOW PI 5 12 15 Α CL 36.8 FN SAND, SILT, TAN, DRY, NO PI .9' RECOV. 3 4 7 В ML CLAY, SAND, ORGANICS, TAN, DRY, LOW PI 5.7 5.0' .4' RECOV. C 5 6 6 CL 5.0 SAND, SILT, TAN, DAMP, NO PI 1.2' RECOV. D 4 3 8 SM8.8 10.01 SAND, FN TO COARSE, TAN, DAMP TO SAT, NO PI 1.2' RECOV. WL @ 11' 228 Ε SP 12.51 15.5 .9'RECOV. SW-SMADD WATER DN HOLE SAND, SILT, FN GRAVEL, TAN, NO PI F 5 17.4 15.0' SAND, FN GRAVEL, TAN, NO PI .9' RECOV. 3 5 4 G SP LETTER CLASSIFICATION BASED ON LABORATORY CLASSIFICATION (ASTM D-2487) Note: soil descriptions obtained from samples at depths indicated PROJECT ALBUQUERQUE LEVEES ENG FORM1836 PREVIOUS EDITIONS ARE OBSOLETE.

File No. AQ05BLB62.AM1 8HSA-62 Hole No. DRILLING LOG SOUTH PACIFIC ALBUQUERQUE DISTRICT 10. SIZE AND TYPE OF BIT 8" HSA 2"SS 11. DATUM FOR ELEVATION SHOWN (TBM or MSL) ALBUQUERQUE LEVEES 2. LOCATION (Coordinates or Station).
-106., 35. (LONG, LAT)
3. DRILLING AGENCY
ALBUQUERQUE DISTRICT 12. MANUFACTURER'S DESIGNATION OF DRILL CME 75 13. TOTAL NO. OF OVER-DISTURBED UNDISTURBED . HOLE NO. (As shown on drawing title and file number) 8HSA-62 4. TOTAL NUMBER CORE BOXES 5. NAME OF DRILLER GEOMECHANICS SOUTHWEST INC, JOSE PEREA 15. ELEVATION GROUND WATER 16. DATE HOLE STARTED 23 JUN 06 1035 VERTICAL INCLINED . 7. ELEVATION TOP OF HOLE 7. THICKNESS OF OVERBURDEN N/A > 18, TOTAL CORE RECOVERY FOR BORING 8. DEPTH DRILLED INTO ROCK 19. NAME(S) OF INSPECTOR(S) FELIX R MASCARENO/WILLIAM SHUTER TOTAL DEPTH OF HOLE 16.5' BLOW COUNTS SPT TEST MOIST. CONTENT REMARKS
(Drilling time, water loss,depth of weathering, etc., if significant) CLASSIFICATION OF MATERIALS (Description) CLAY, SILT, BRN, DRY, ORGANICS, LOW PI 2 8 12 .5' RECOV. 3.0 Α CL-ML 3.4 SILT, SAND, BRN, DRY, ORGANICS, NO PI .3' RECOV. 3 4 3 В SM 0.8 SAND, FN GRAVEL, TAN, DAMP, NO PI 1.1' RECOV. С SP 1.3 SAND, TAN, MOIST, NO PI 1.1' RECOV. D 2 3 8 SP 14.8 10.01 SAND, TAN MOIST TO SAT, NO PI 1.1' RECOV. WL @ 10 1/2' 3 5 Ε SP SAND, FN GRAVEL, SAT, TAN, NO PI 12.51 12.9 .9' RECOV. 2 1 4 F SP 16.8 15.0' SAME AS ABOVE 1.0' RECOV. 2 3 4 G SP LETTER CLASSIFICATION BASED ON LABORATORY CLASSIFICATION (ASTM D-2487) Note: soil descriptions obtained from samples at depths indicated PROJECT ALBUQUERQUE LEVEES HOLE ENG FORM1836 PREVIOUS EDITIONS ARE OBSOLETE.

File No. AQ05BLB63.AM1 8HSA-63 Hole No DRILLING LOG SOUTH PACIFIC ALBUQUERQUE DISTRICT 10. SIZE AND TYPE OF BIT 8" HSA 2"SS 11. DATUM FOR ELEVATION SHOWN (TBM or MSL) ALBUQUERQUE LEVEES 2. LOCATION (Coordinates or Station -106., 35. (LONG, LAT) 3. DRILLING AGENCY 12. MANUFACTURER'S DESIGNATION OF DRILL CME 75 TOTAL NO. OF OVER-ALBUQUERQUE DISTRICT UNDISTURBED . HOLE NO. (As shown on drawing title and file number) 8HSA-63 5. NAME OF DRILLER GEOMECHANICS SOUTHWEST INC, JOSE PEREA 15. ELEVATION GROUND WATER 16. DATE HOLE STARTED 23 JUN 06 1242 VERTICAL ☐ INCLINED 7. ELEVATION TOP OF HOLE 7. THICKNESS OF OVERBURDEN 18, TOTAL CORE RECOVERY FOR BORING N/A > 8. DEPTH DRILLED INTO ROCK 19. NAME(S) OF INSPECTOR(S) FELIX R MASCARENO/WILLIAM SHUTER 46.5 TOTAL DEPTH OF HOLE BLOW COUNTS SPT TEST MOIST. CONTENT REMARKS (Drilling time, water loss,depth of weathering, etc., if significant) g CLASSIFICATION OF MATERIALS (Description) d .7' RECOV. 1.6 CLAY, ORGANICS, TAN, DRY, MOD PI 8 Α 6 13 CL 1.8 15 21 23 SILT, GRAVEL TO 1", TAN, DRY, NO PL 1.1' RECOV. В SM 2.3 FN SAND, SILT, FN GRAVEL, TAN, DAMP, NO PI 1.0' RECOV. 6 24 35 С SM1.6 FN SAND, SILT, FN GRAVEL, TAN, DAMP, NO PI 11 29 33 1.1' RECOV. D SM 5.6 10.01 5 10 13 SAND, CLAY, TAN TO BRN, DAMP, LOW PI 1.1' RECOV. Ε SC 1.2 FN SAND, SILT, TAN, DAMP, NO PL .9' RECOV. 4 F 6 0.9 15.01 SAND, FN GRAVEL, SILT, TAN, NO PI, DAMP 1.0' RECOV. 4 G SP-SM 6 1.0 17.5 SAND, SILT, FN GRAVEL, TAN, MOIST, NO PI .4' RECOV. 6 8 10 SP-SM 12.7 20.0 SAND, SILT, FN GRAVEL, TAN, SAT, NO PI .8' RECOV. 3 3 4 SP-SMWL @ 20' 12.7 SAME AS ABOVE, GRAVEL TO 11/2" .6' RECOV 3 2 SP-SMADD WATER DN HOLE 12.7 SAND, SILT, FN GRAVEL, TAN, NO PI, GRAVELTO 1" 25.0' 2 6 11 .6' RECOV. SP-SM 27.5 SAND, SILT, FN GRAVEL, TAN, NO PI .4' RECOV. 5 L 15 30.0' 1.9 SAME AS ABOVE .6' RECOV. 4 5 6 М SP-SM 3.1 32.5' SAME AS @ 27 1/2' .4' RECOV. 6 13 SP-SM 10 2.1 35.0' SAND, SILT, FN GRAVEL, ORGANICS, .8' RECOV. 4 8 14 0 SW-SM 1.9 37.5' SAME AS ABOVE, GRAVEL TO 1" 8 .9' RECOV. SP-SM 12 40.0' 3.0 SAND, FN GRAVEL, SILT, TAN, 11/2" ROCK IN SHOE, NO PI 8 17 27 .3' RECOV. Q SP-SM 42.5' 1.9 FN SAND, SILT, FN GRAVEL, TAN, NO PI, 11/2" IN SHOE 9 15 29 .9' RECOV. SP-SM 45.0' 1.9 SAME AS ABOVE 6 11 22 .3' RECOV. AUGER TO 45' SAMPLE TO 46.5' SP-SM LETTER CLASSIFICATION BASED ON LABORATORY CLASSIFICATION (ASTM D-2487) Note: soil descriptions obtained from samples at depths indicated PROJECT ALBUQUERQUE LEVEES HOLE ENG FORM1836 PREVIOUS EDITIONS ARE OBSOLETE.

File No. AQ05BLB64.AM1 8HSA-64 Hole No. DRILLING LOG SOUTH PACIFIC ALBUQUERQUE DISTRICT 10. SIZE AND TYPE OF BIT 8" HSA 2"SS 11. DATUM FOR ELEVATION SHOWN (TBM or MSL) ALBUQUERQUE LEVEES 2. LOCATION (Coordinates or Station).
-106., 35. (LONG, LAT)
3. DRILLING AGENCY
ALBUQUERQUE DISTRICT 12. MANUFACTURER'S DESIGNATION OF DRILL CME 75 13. TOTAL NO. OF OVER-DISTURBED UNDISTURBED . HOLE NO. (As shown on drawing title and file number) 8HSA-64 4. TOTAL NUMBER CORE BOXES 5. NAME OF DRILLER GEOMECHANICS SOUTHWEST INC, JOSE PEREA 15. ELEVATION GROUND WATER 16. DATE HOLE STARTED COMPLETED 1338 23 JUN 06 VERTICAL INCLINED _ DEG. FROM VERT. 7. ELEVATION TOP OF HOLE 7. THICKNESS OF OVERBURDEN N/A > 18, TOTAL CORE RECOVERY FOR BORING 8. DEPTH DRILLED INTO ROCK 19. NAME(S) OF INSPECTOR(S) FELIX R MASCARENO/WILLIAM SHUTER TOTAL DEPTH OF HOLE 16.5' BLOW COUNTS SPT TEST MOIST. CONTENT REMARKS
(Drilling time, water loss,depth of weathering, etc., if significant) CLASSIFICATION OF MATERIALS (Description) .7' RECOV. 1.4 SAND, ORGANICS, TAN, DRY, NO PI 233 Α SP-SM 1.5 SAND, GRAVEL, TAN, DRY TO DAMP, NO PI 1.0' RECOV. 4 5 В SP 2.7 5.0' SAME AS ABOVE, GRAVEL TO 11/4" .7' RECOV. С 6 8 8 GΡ 12.2 SAND, GRAVEL, TAN, SAT, NO PI .8' RECOV. WL @ 7' D 3 4 SP 16.0 10.01 SAME AS ABOVE .8' RECOV. 4 3 6 Ε SP 12.51 9.1 SAND, FN GRAVEL, TAN, SAT, NO PI 3 4 1.1' RECOV. F SP 6 15.0' 10.3 SAND, COARSE TO FN, FN GRAVEL, TAN, SAT, NO PI 1.0' RECOV. 3 5 6 G SP LETTER CLASSIFICATION BASED ON LABORATORY CLASSIFICATION (ASTM D-2487) Note: soil descriptions obtained from samples at depths indicated PROJECT ALBUQUERQUE LEVEES HOLE ENG FORM1836 PREVIOUS EDITIONS ARE OBSOLETE.

File No. AQ05BLB65.AM1 8HSA-65 Hole No DRILLING LOG SOUTH PACIFIC ALBUQUERQUE DISTRICT 10. SIZE AND TYPE OF BIT 8" HSA 2"SS 11. DATUM FOR ELEVATION SHOWN (TBM or MSL ALBUQUERQUE LEVEES 2. LOCATION (Coordinates or Station -106., 35. (LONG, LAT) 3. DRILLING AGENCY 12. MANUFACTURER'S DESIGNATION OF DRILL CME 75 TOTAL NO. OF OVER-ALBUQUERQUE DISTRICT . HOLE NO. (As shown on drawing title and file number) 8HSA-65 5. NAME OF DRILLER GEOMECHANICS SOUTHWEST INC, JOSE PEREA 15. ELEVATION GROUND WATER 16. DATE HOLE STARTED 23 JUN 06 1338 VERTICAL INCLINED 7. ELEVATION TOP OF HOLE 7. THICKNESS OF OVERBURDEN N/A ; 18, TOTAL CORE RECOVERY FOR BORING 8. DEPTH DRILLED INTO ROCK 19. NAME(S) OF INSPECTOR(S) FELIX R MASCARENO/WILLIAM SHUTER TOTAL DEPTH OF HOLE BLOW COUNTS SPT TEST MOIST. CONTENT REMARKS (Drilling time, water loss,depth of weathering, etc., if significant) g CLASSIFICATION OF MATERIALS (Description) d FN SAND, SILT, FN GRAVEL, BRN, DRY, NO PI 1.0' RECOV. 10.1 Α 10 9 SM 4.5 SAME AS ABOVE, GRAVEL TO 11/2" 1.2' RECOV. В 6 SM 4.5 FN SAND, SILT, FN GRAVEL, TAN, DAMP, NO PI 1.1' RECOV. C SM18 4.4 SAME AS ABOVE 10 22 36 1.2' RECOV. D SM5.2 10.01 FN SAND, SILT, CLAY, TAN TO BRN, DAMP, LOW PI 1.1' RECOV. 9 8 6 Ε SM 3.4 FN SAND, SILT, TAN, DAMP, NO PI .8' RECOV. 8 9 12 F SP-SM 15.0' 1.4 SAND, SILT, TAN, MOIST, NO PI 1.0' RECOV. 3 G 6 12 SP-SM 5.9 17.5' FN SAND, FN GRAVEL, TAN, DAMP TO MOIST, NO PI, SILT 1.2' RECOV. 4 SP-SM 12 14.4 20.0 SAND, FN GRAVEL, TAN, MOIST TO SAT 1.2' RECOV. 4 4 7 21.9 1.2' RECOV. SP-SMADD WATER DN HOLE SAND, CLAY, TAN TO BRN, LOW PI 2 0 1 J 17.9 25.0 SAND, FN TO COARSE, SILT, BRN, NO PI 1.1' RECOV. 2 4 6 Κ SM 19.4 SAND, CLAY, GRAVEL, BRN, LOW PI .5' RECOV. L SC 6 19.3 30.0' SAND, SILT, BRN, NO PI 5 .5' RECOV. М SP 8 32.5' NO RECOVERY 0' RECOV. Ν 4 5 8 35.0' NO RECOVERY 0' RECOV. 2 6 10 0 37.5' NO RECOVERY 0' RECOV. Ρ 12 19 40.0 17.1 SAND, FN GRAVEL, TAN, NO PI, 2" ROCK IN TIP OF SHOE AUGER TO 40' SAMPLE TO 41.5' .7' RECOV. 4 8 12 Q SP LETTER CLASSIFICATION BASED ON LABORATORY CLASSIFICATION (ASTM D-2487) Note: soil descriptions obtained from samples at depths indicated PROJECT ALBUQUERQUE LEVEES HOLE ENG FORM1836 PREVIOUS EDITIONS ARE OBSOLETE.

File No. AQ05BLB66.AM1 8HSA-66 Hole No. DRILLING LOG SOUTH PACIFIC ALBUQUERQUE DISTRICT 10. SIZE AND TYPE OF BIT 8" HSA 2"SS 11. DATUM FOR ELEVATION SHOWN (TBM or MSL) ALBUQUERQUE LEVEES 2. LOCATION (Coordinates or Station).
-106., 35. (LONG, LAT)
3. DRILLING AGENCY
ALBUQUERQUE DISTRICT 12. MANUFACTURER'S DESIGNATION OF DRILL CME 75 TOTAL NO. OF OVER-UNDISTURBED . HOLE NO. (As shown on drawing title and file number) 8HSA-66 5. NAME OF DRILLER GEOMECHANICS SOUTHWEST INC, JOSE PEREA 15. ELEVATION GROUND WATER 16. DATE HOLE STARTED 1350 VERTICAL ☐ INCLINED 7. ELEVATION TOP OF HOLE 7. THICKNESS OF OVERBURDEN N/A > 18, TOTAL CORE RECOVERY FOR BORING 8. DEPTH DRILLED INTO ROCK 19. NAME(S) OF INSPECTOR(S) FELIX R MASCARENO/WILLIAM SHUTER TOTAL DEPTH OF HOLE 16.5' BLOW COUNTS SPT TEST MOIST. CONTENT REMARKS
(Drilling time, water loss,depth of weathering, etc., if significant) CLASSIFICATION OF MATERIALS (Description) FN SAND, SILT, FN GRAVEL, TAN, DRY, NO PI 1.2' RECOV. 3.2 5 9 8 Α SM12.9 FN SAND, SILT, FN GRAVEL, TAN, DAMP, NO PI .8' RECOV. 4 6 7 В SM 0.6 5.0' SAND, FN TO COARSE, SILT, TAN, DAMP, NO PI .7' RECOV. 3 С SW-SM 4 1.8 SAND, FN GRAVEL, TAN, DAMP, NO PI .75' RECOV. D 6 6 7 SP 8.3 10.01 SAND, GRAVEL, TAN, SAT, NO PI .5' RECOV. WL @ 10 1/2' 243 Ε SP 12.51 12.2 .8' RECOV. SP-SMADD WATER DN HOLE SAND, SILT, FN GRAVEL, TAN, NO PI 2 3 5 F 10.1 15.0' SAND, FN GRAVEL, TAN, NO PI .65' RECOV. 4 4 5 G LETTER CLASSIFICATION BASED ON LABORATORY CLASSIFICATION (ASTM D-2487) Note: soil descriptions obtained from samples at depths indicated PROJECT ALBUQUERQUE LEVEES HOLE ENG FORM1836 PREVIOUS EDITIONS ARE OBSOLETE.

File No. AQ05BLB67.AM1 8HSA-67 Hole No DRILLING LOG SOUTH PACIFIC ALBUQUERQUE DISTRICT 10. SIZE AND TYPE OF BIT 8" HSA 2"SS 11. DATUM FOR ELEVATION SHOWN (TBM or MSL) ALBUQUERQUE LEVEES -106.6477343, 35.186085249 (LONG, LAT) 12. MANUFACTURER'S DESIGNATION OF DRILL CME 75 13. TOTAL NO. OF OVER-ALBUQUERQUE DISTRICT DISTURBED UNDISTURBED . HOLE NO. (As shown on drawing title and file number) 8HSA-67 5. NAME OF DRILLER GEOMECHANICS SOUTHWEST INC, JOSE PEREA 15. ELEVATION GROUND WATER 16. DATE HOLE STARTED COMPLETED 21 JUN 06 1237 VERTICAL INCLINED 7. ELEVATION TOP OF HOLE 7. THICKNESS OF OVERBURDEN N/A > 18 TOTAL CORE RECOVERY FOR BORING 8. DEPTH DRILLED INTO ROCK 19. NAME(S) OF INSPECTOR(S) FELIX R MASCARENO/WILLIAM SHUTER TOTAL DEPTH OF HOLE 41.5' MOIST. CONTENT REMARKS (Drilling time, water loss,depth of weathering, etc., if significant) g CLASSIFICATION OF MATERIALS (Description) .8' RECOV. 1.1 SAND, SILT, FN GRAVEL, BRN, DRY, NO PI Α SM 8.0 SAND, FN GRAVEL, SILT, BRN, DAMP, .9' RECOV. 6 В NO PI SM 8 4.4 5.0' SAND, SILT, FN GRAVEL, BRN, DAMP, NO PI, GRAVEL TO 11/2" .8' RECOV. C 10 SM6 7.4 SAND, SILT, FN GRAVEL, BRN TO TAN, NO PI, DAMP 1.0' RECOV. 7 D 11 SM14 11.1 10.01 SAND, SILT, BRN, DAMP, NO PI 1.1' RECOV. 4 6 7 Ε SM 1.7 FN SAND, SILT, TAN, DAMP, NO PL 1.0' RECOV. 3 4 F SP-SM 15.0' 10.1 FN SAND, SILT, ORGANICS, TAN, NO PI .5' RECOV. G 0 SM 11.9 17.5 SAND, SILT, FN GRAVEL, TAN, NO PI, DAMP TO SAT 7' RECOV. 2 Н WL @ 18 1/2' SM 8 12.3 20.0 SAND, FN TO COARSE, TAN, FN GRAVEL, GRAVEL TO 11/2" 1.0' RECOV 1 ADD WATER DN HOLE SP 6 14.7 SAND, FN GRAVEL, TAN, NO PI .6' RECOV. 4 J SP 11 6 11.5 25.0 FN GRAVEL, SAND, TAN, NO PI .6' RECOV. Κ SP 6 17.4 SAND, FN GRAVEL, TAN, NO PI .5' RECOV. 5 8 9 L SP 30.0' 17.6 SAME AS ABOVE .6' RECOV. 3 4 8 М SP 10.0 SAND, FN GRAVEL, TAN, NO PI, 11/2"
ROCK IN TIP OF SHOE .4' RECOV. 8 11 Ν GP 14 14.2 SAND, FN GRAVEL, TAN, NO PI .4' RECOV. 6 10 14 0 SP 37.5' -NO RECOVERY 0' RECOV. 5 11 Ρ 21 20.0 40.0' -FN SAND, TAN, NO PI AUGER TO 40' SAMPLE TO 41.5' 7 17 25 .6' RECOV. Q SP LETTER CLASSIFICATION BASED ON LABORATORY CLASSIFICATION (ASTM D-2487) Note: soil descriptions obtained from samples at depths indicated PROJECT ALBUQUERQUE LEVEES HOLE ENG FORM1836 PREVIOUS EDITIONS ARE OBSOLETE.

Same

Geomechanics Southwest Inc. P.O. Box 6527

Client:

Albuquerque, NM 87197-

Branden L Sanders Attention:

Albuquerque Levees Project Name:

Albuquerque, NM Albuquerque

Project Manager: Herman Garcia

Project #: 6-519-004033

Report Date: July 31, 2006

Date Sampled: 06/12/2006 Sampled By: client Work Order #: 57

Sieve Analaysis (ASTM C117/C136)

Plasticity Index (ASTM D4318) Soil Classification (ASTM D2487)

SOILS / AGGREGATES

Sample location Class 11 D1 #200 #100 #E0	Soil	_	-	200	120	#E	07#	#30	27	2	Q.		5	ā	Š	;		,	į		;	;		Lab
	Class.			2	201	2	2		0	2	0#	- 1	<u>ئ</u>	0	15 71	-	7/L L	7/1 1	7	7/17		9	12"	Number
8HSA-01 0 A	SC	31 14	14	48	48 60 72 93 94	72	93		96	97	74	66		100										SR-344K-01
8HSA-01 2.5 B	SC	31 15	15	45	58	69	72	75	79	82	84	92	_	100										SR-344K-02
8HSA-015C	SC	30 16	16	40	59	92	80	83	85	98	98	88	٥,	97 1	100									SR-344K-03
8HSA-01 7.5 D	SP-SM	NV NP	₽ P	-	40	74	86	92	95	96	97	98	~	001										SR-344K-04
8HSA-01 10 E	SM	NV NP	₽ D	24	42	59	71	80	87	89	89	93	Y	100										SR-344K-05
8HSA-01 12.5 F	SM	<u>></u>	Ā	20	29	37	74	89	92	96	26	98	٠,	99 1	100									SR-344K-06
8HSA-01 15 G	SM	NV NP	ď	18	29	35	64	88	92	95	96	97	٠,	98 1	100									SR-344K-07

Reviewed By:

Distribution: Client: ✓ File: ✓ Email:

Supplier:

Other: Addressee (2)

AMEC Earth _Environmental, Inc. 8519 Jefferson NE

Albuquerque, NM 87113 Tel 5058211801 Fax 5058217371



Client:

Geomechanics Southwest Inc.

P.O. Box 6527

Albuquerque, NM 87197-

Attn:

Branden L Sanders

Project Name:

Albuquerque Levees Albuquerque

Albuquerque, NM

Project Manager: Herman Garcia

SOILS / AGGREGATES

Report Date: July 31, 2006

Project #: 6-519-004033

Report #: 426

Work Order #: 57

Sampled By: client

Date Sampled: 06/12/2006

81-	ISA-01 0 A				(pcf)
	10/1-01-07	199.7	182.7	9.3%	(-1-)
8⊦	ISA-01 2.5 B	188.0	157.8	19.1%	
8⊦	ISA-01 5 C	185.0	157.8	17.2%	
8⊦	ISA-01 7.5 D	212.8	168.9	26.0%	
8⊢	ISA-01 10 E	310.0	247.3	25.4%	
8	SA-01 12.5 F	212.9	175.9	21.0%	
-18	SA-01 15 G	215.6	183.9	17.2%	
	8H 8H 8H	8HSA-01 2.5 B 8HSA-01 5 C 8HSA-01 7.5 D 8HSA-01 10 E 8HSA-01 12.5 F 8HSA-01 15 G	8HSA-01 5 C 185.0 8HSA-01 7.5 D 212.8 8HSA-01 10 E 310.0 8HSA-01 12.5 F 212.9	8HSA-01 5 C 185.0 157.8 8HSA-01 7.5 D 212.8 168.9 8HSA-01 10 E 310.0 247.3 8HSA-01 12.5 F 212.9 175.9	8HSA-01 5 C 185.0 157.8 17.2% 8HSA-01 7.5 D 212.8 168.9 26.0% 8HSA-01 10 E 310.0 247.3 25.4% 8HSA-01 12.5 F 212.9 175.9 21.0%

Reviewed By:

Distribution: Client: File:

Email:

Supplier: 🗹

Other: Addressee (2)

AMEC Earth Environmental, Inc. 8519 Jefferson NE Albuquerque, NM 87113 Tel 5058211801 Fax 5058217371

Same

Report Date: July 31, 2006

Geomechanics Southwest Inc.

Client:

87197-

Albuquerque, NM

P.O. Box 6527

Albuquerque Levees

Project Name:

Attention:

Albuquerque, NM

Albuquerque

Branden L Sanders

Project #: 6-519-004033

Work Order #: 58

Sampled By: CLIENT Date Sampled: 06/12/2006

Sieve Analaysis (ASTM C117/C136)

Plasticity Index (ASTM D4318) Soil Classification (ASTM D2487)

SOILS / AGGREGATES Project Manager: Herman Garcia

Soil Sample Location Class.	Soil Class.	L.L. P.I.	#200	# <mark>20</mark> 0 #100 #50	#20	#40	#30	#16	#10	8	7#	1/4" 3/8"	112	3/4'	Ę-	114" 3/8" 1/2" 3/4' 1" 1 1/4" 1 1/2" 2" 2 1/2" 3"	2	2 112"	5	12"	Lab Number
8HSA-02 0 A	SP-SM	NV NP	9.2	31	75	88	94	97	86	86	98	100									SR-344L-01
8HSA-02 2.5 B	SM	NV NP	28	42	9	77	80	89	95	85	95	66	100								SR-344L-02
8HSA-02 5 C	SC	31 12	29	4	61	72	80	88	91	91	95	98	100								SR-344L-03
8HSA-02 7.5 D	SC	34 16	48	29	82	89	93	86	66	99	100										SR-344L-04
8HSA-02 10 E	SP	NV NP	2.6	თ	39	58	70	83	87	87	90	94	100	_							SR-344L-05
8HSA-02 12.5 F	SP	N NP	3.8	23	84	94	26	66	100												SR-344L-06
8HSA-02 15 G	SP	N NP	2.0	20	63	82	91	26	66	99	100										SR-344L-07
8HSA-02 17.5 H	SP	NV NP	4.2	25	64	82	90	95	96	96	97	98	100	_							SR-344L-08
8HSA-02 20 I	SP	NV NP	1.6	18	63	83	93	66	100												SR-344L-09
8HSA-02 25 K	SP	N NP	2.3	7	26	45	62	77	82	83	87	92	100	_							SR-344L-10
8HSA-02 27.5 L	SP	NV NP	2.3	9	23	37	20	99	73	75	83	92	100	_							SR-344L-11
8HSA-02 30 M	SP	N VP	4.3	7	21	43	29	91	26	86	66	100									SR-344L-12

Reviewed By:

File: Distribution: Client: ✓ Email:

Supplier:

Other: Addressee (2)

AMEC Earth Environmental, Inc.

8519 Jefferson NE Albuquerque, NM 87113 Tel 5058211801 Fax 5058217371



Client:

Geomechanics Southwest Inc.

P.O. Box 6527

Albuquerque, NM 87197-

Attn:

Branden L Sanders

Albuquerque Levees Albuquerque

Albuquerque, NM

Project Name:

Project Manager: Herman Garcia

Report Date: July 31, 2006

Project #: 6-519-004033

Report #: 427

Work Order #: 58

Sampled By: CLIENT

Date Sampled: 06/12/2006

SOILS / AGGREGATES

Lab #	Color & Type of Material	Sample Source	Wet Weight (g)	Dry Weight (g)	Moisture (%)	Dry Density (pcf)
SR-344L-01		8HSA-02 0 A	161.6	156.8	3.1%	
SR-344L-02		8HSA-02 2.5 B	214.5	192.5	11.4%	
SR-344L-03		8HSA-02 5 C	224.4	204.9	9.5%	
SR-344L-04		8HSA-02 7.5 D	228.2	214.9	6.2%	
SR-344L-05		8HSA-02 10 E	201.4	199.5	1.0%	
SR-344L-06		8HSA-02 12,5 F	153.2	138.4	10.7%	
SR-344L-07		8HSA-02 15 G	242.8	201.8	20.3%	
SR-344L-08		8HSA-02 17.5 H	208.0	173.8	19.7%	
SR-344L-09		8HSA-02 20 I	177.4	147.9	19.9%	
SR-344L-10		8HSA-02 25 K	187.9	154.9	21.3%	
SR-344L-11		8HSA-02 27.5 L	184.7	159.1	16.1%	
SR-344L-12		8HSA-02 30 M	212.3	180.7	17.5%	

Reviewed By:

Distribution: Client: ✓

Email:

File: Supplier: Other: Addressee (2)

AMEC Earth _Environmental, Inc. 8519 Jefferson NE Albuquerque, NM 87113

Tel 5058211801 Fax 5058217371





July 31, 2006

Geomechanics Southwest, Inc. 416-B Menaul Blvd., NW Albuquerque, NM 87107

AMEC Job No.: 6-519-004033

Lab # SR-344M

Attn:

Branden L. Sanders

Project:

Albuquerque Levees

Re:

Results of Lab Testing (8HSA-03) Performed by AMEC.

Manager of Technical Services

Copies: Addressee (2) *ാല്യ*

Geomechanics Southwest Inc. Client:

P.O. Box 6527

87197-Albuquerque, NM

Branden L Sanders Attention:

Albuquerque Levees Project Name:

Albuquerque, NM Albuquerque

Project Manager: Herman Garcia

Report Date: July 31, 2006

Project #: 6-519-004033 Date Sampled: 06/12/2006 Sampled By: CLIENT Work Order #: 59

Sieve Analaysis (ASTM C117/C136) Plasticity Index (ASTM D4318)

Soil Classification (ASTM D2487)

SOILS / AGGREGATES

Soil Sample Location Class. L.L. P.I. #200 #100 #50 #40 #30	Soil Class.	L.L. P.I.	#200	#100	#20	#40	#30	#16	#10	8#	#	1/4" 3	3/8"	112"	3/4.	1.	3/4' 1" 11/4"11/2" 2" 21/2" 3"	. 5	2 112"	ب	9	12"	Lab Number
8HSA-03 0 A	SM	NV NP	26	57	91	97	66	66	66	100	5												SR-344M-01
8HSA-03 2.5 B	SP-SM	NV NP	4.9	16	43	57	29	78	81	82	85		91	95	100								SR-344M-02
8HSA-03 5 C	SP	N NP	3.9	14	44	62	76	88	92	93	95		98	100									SR-344M-03
8HSA-03 7.5 D	SP-SM	N N N	4.5	4	38	55	99	84	90	91	96		98	100									SR-344M-04
8HSA-03 10 E	SP	N NP	4.4	15	20	70	80	88	91	93	96		26	100									SR-344M-05
8HSA-03 12.5 F	SP-SM	N NP	5.1	21	56	74	84	92	92	96	98		100										SR-344M-06
8HSA-03 15 G	SP-SM	N NP	4.7	6	19	33	48	71	8	83	89		94	95	100								SR-344M-07
8HSA-03 17.5 H	SM	NV NP	13	26	72	85	92	96	86	98	66		66	100									SR-344M-08
8HSA-03 20 I	SP-SM	N NP	8.4	13	46	75	89	86	66	66	100												SR-344M-09
8HSA-03 22.5 J	SP	N NP	3.3	10	37	48	54	58	9	61	63		29	72	62	100							SR-344M-10
8HSA-03 25 K	SP-SM	N NP	5.6	œ	23	46	65	62	83	84	88		92	100									SR-344M-11
8HSA-03 27.5 L	SP	N NP	2.0	4	12	20	29	43	53	26	70		84	92	100								SR-344M-12

Reviewed By:

File: Distribution: Client: ✓ Email:

Other: Addressee (2) Supplier:

AMEC Earth .Environmental, Inc. 8519 Jefferson NE
Albuquerque, NM 87113
Tel 5058211801
Fax 5058217371



Geomechanics Southwest Inc.

P.O. Box 6527

Albuquerque, NM 87197-

Report Date: July 31, 2006

Project #: 6-519-004033

Report #: 428 Work Order #: 59

Sampled By: CLIENT

Date Sampled: 06/12/2006

Attn:

Branden L Sanders

Project Name:

Albuquerque Levees

Albuquerque Albuquerque, NM

Project Manager: Herman Garcia

SOILS / AGGREGATES

Lab #	Color & Type of Material	Sample Source	Wet Weight (g)	Dry Weight (g)	Moisture (%)	Dry Density (pcf)
SR-344M-01		8HSA-03 0 A	291.3	268.2	8.6%	
SR-344M-02		8HSA-03 2.5 B	278.3	261.8	6.3%	
SR-344M-03		8HSA-03 5 C	295.9	274.2	7.9%	
SR-344M-04		8HSA-03 7.5 D	249.7	236.9	5.4%	
SR-344M-05		8HSA-03 10 E	276.9	262.0	5.7%	
SR-344M-06		8HSA-03 12.5 F	253.5	241.7	4.9%	
SR-344M-07		8HSA-03 15 G	255.5	248.5	2.8%	
SR-344M-08		8HSA-03 17.5 H	251.4	234.9	7.0%	
SR-344M-09		8HSA-03 20 I	269.1	243.7	10.4%	
SR-344M-10		8HSA-03 22.5 J	270.5	245.0	10.4%	
SR-344M-11		8HSA-03 25 K	253.3	227.0	11.6%	
SR-344M-12		8HSA-03 27.5 L	273.6	251.6	8.7%	

Reviewed By:

MMM

<u>Distribution:</u> Client: ✓ File: ✓ Supplier: ✓ Other: Addressee (2)

Email:

AMEC Earth _Environmental, Inc. 8519 Jefferson NE Albuquerque, NM 87113

Tel 5058211801 Fax 5058217371

amec Report Date: July 31, 2006

> Geomechanics Southwest Inc. P.O. Box 6527 Client:

87197-Albuquerque, NM

Branden L Sanders Attention:

Albuquerque Levees Project Name:

Albuquerque

Albuquerque, NM

Project Manager: Herman Garcia

Project #: 6-519-004033 Date Sampled: 06/12/2006 Sampled By: CLIENT Work Order #: 60

Sieve Analaysis (ASTM C117/C136) Plasticity Index (ASTM D4318) Soil Classification (ASTM D2487)

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Soil Sample Location Class. L.L. P.I. #2 <mark>0</mark> 0 #100 #50 # <mark>40</mark> #30	Soil Class.	L.L. P.I.	#200	#100	#20	#40	#30	#16	#10	8#	#	1/4" 3	18" 1	12" 3	14. 1	1 1/4	ı" 1 1/2"	2.	2 1/2"	 	12"	Lab 1/4" 3/8" 1/2" 3/4' 1" 1 1/4" 1 1/2" 2" 2 1/2" 3" 6" 12" Number
8HSA-04 0 A	SM	NV NP	35	45	35 45 53	55	57	62	99	89	80		96	100							0	SR-344N-01
8HSA-04 2.5 B	SM	N NP	15	53	61	29	85	93	92	86	100										0)	SR-344N-02
8HSA-04 5 C	SP	N NP	2.2	25	52	61	73	84	87	91	92		96	100							()	SR-344N-03
8HSA-04 7.5 D	SP-SM	N NP	4.6	12	40	59	29	73	82	83	90		93 1	100							()	SR-344N-04
8HSA-04 10 E	SP	NV NP	4.3	25	-453	48	51	61	65	79	88		06	93	100						0)	SR-344N-05
8HSA-04 12.5 F	SP-SM	N VP	6.9	16	29	40	52	29	65	73	83		90 1	100							()	SR-344N-06
8HSA-04 15 G	SP-SM	N NP	7.2	43	47	55	59	89	73	22	84		06	95 1	100						(O)	SR-344N-07

Reviewed By:

File: Distribution: Client: ✓ Email:

Supplier: 🗸 Other: Addressee (2)

AMEC Earth ,Environmental, Inc. 8519 Jefferson NE
Albuquerque, NM 87113
Tel 5058211801
Fax 5058217371



Geomechanics Southwest Inc.

P.O. Box 6527

Albuquerque, NM 87197-

Attn:

Branden L Sanders

Project Name:

Albuquerque Levees

Albuquerque

Albuquerque, NM

Project Manager: Herman Garcia

Sampled By: CLIENT Date Sampled: 06/12/2006

Report #: 429 Work Order #: 60

Report Date: July 31, 2006

Project #: 6-519-004033

SOILS / AGGREGATES

Lab #	Color & Type of Material	Sample Source	Wet Weight (g)	Dry Weight (g)	Moisture (%)	Dry Density (pcf)
SR-344N-01		8HSA-04 0 A	116.0	98.1	18.2%	
SR-344N-02		8HSA-04 2.5 B	266.6	234.0	13.9%	
SR-344N-03		8HSA-04 5 C	286.6	246.0	16.5%	
SR-344N-04		8HSA-04 7.5 D	252.6	221.7	13.9%	
SR-344N-05		8HSA-04 10 E	211.3	181.1	16.7%	
SR-344N-06		8HSA-04 12.5 F	235.8	206.4	14.2%	
SR-344N-07		8HSA-04 15 G	255.2	225.5	13.2%	

Reviewed By:

Email:

<u>Distribution:</u> Client: ✓ File: ✓ Supplier: ✓ Other: Addressee (2)

AMEC Earth Environmental, Inc. 8519 Jefferson NE Albuquerque, NM 87113

Tel 5058211801 Fax 5058217371

Same

Report Date: July 31, 2006

Geomechanics Southwest Inc.

Client:

P.O. Box 6527

Albuquerque, NM 87197-

Albuquerque Levees Branden L Sanders

Project Name: Attention:

Albuquerque, NM

Albuquerque

Project #: 6-519-004033

Work Order #: 61

Date Sampled: 06/12/2006 Sampled By: CLIENT

Sieve Analaysis (ASTM C117/C136)

Plasticity Index (ASTM D4318) Soil Classification (ASTM D2487)

SOILS / AGGREGATES Project Manager: Herman Garcia

Sample Location	Soil Class.	L.L. P.I. #200 #100 #50 #40	#200	#100	#20	#40	#30	#16	#10	8#	#	1/4" 3	8/	1/2"	3/4.	1/4" 3/8" 1/2" 3/4' 1" 11/4"11/2" 2" 21/2" 3"	1 1/2"	 2 1/2"	 .9	12"	Lab Number
8HSA-05 0 A	SM	dN VN	20	41	43	43	29	64	74	93	100										SR-3440-01
8HSA-05 2.5 B	SM	NV NP	20	43	54	58	29	78	84	95	100										SR-3440-02
8HSA-05 5 C	SM	NV NP	21	33	45	9	65	29	78	92	96	,-	100								SR-3440-03
8HSA-05 7.5 D	SM	NV NP	20	37	61	75	84	86	88	89	93		94	,	100						SR-3440-04
8HSA-05 10 E	SM	N NP	18	47	20	69	75	81	87	91	93	,~	100								SR-3440-05
8HSA-05 12.5 F	SP-SM	NV NP	0.9	1	43	52	58	65	72	83	86		90	94	100						SR-3440-06
8HSA-05 15 G	SP-SM	NV NP	7.8	24	38	48	63	72	73	8	87		92	, 26	100						SR-3440-07
8HSA-05 17.5 H	SP-SM	NV NP	4.6	23	47	54	55	29	22	85	95	γ-	100								SR-3440-08
8HSA-05 20 I	SW	NV NP	4.3	17	30	38	48	82	86	93	100										SR-3440-09
8HSA-05 22.5 J	SP-SM	NV NP	8.9	29	42	65	71	81	88		26	ν-	100								SR-3440-10
8HSA-05 25 K	SM	NV NP	14	38	49	55	64	69	92	80	84		98	87	100						SR-3440-11
8HSA-05 27.5 L	ರ	38 22	57	65	20	81	85	90	92	93	100										SR-3440-12
8HSA-05 30 M	ರ	43 27	57	63	72	78	79	81	83	87	91		91	91	100						SR-3440-13

Reviewed By:

File: Distribution: Client: ✓ Email: □

Other: Addressee (2) Supplier:

AMEC Earth .Environmental, Inc. 8519 Jefferson NE
Albuquerque, NM 87113
Tel 5058211801
Fax 5058217371



Geomechanics Southwest Inc.

P.O. Box 6527

Albuquerque, NM 87197-

Attn:

Branden L Sanders

Project Name:

Project Manager:

Albuquerque Levees

Albuquerque Albuquerque, NM

Herman Garcia

Report Date: July 31, 2006

Project #: 6-519-004033

Report #: 432

Work Order #: 61

Sampled By: CLIENT

Date Sampled: 06/12/2006

SOILS / AGGREGATES

Lab #	Color & Type of Material	Sample Source	Wet Weight (g)	Dry Weight (g)	Moisture (%)	Dry Density (pcf)
SR-344O-01		8HSA-05 0 A	177.8	173.6	2.4%	
SR-344O-02		8HSA-05 2.5 B	228.6	217.0	5.3%	
SR-344O-03		8HSA-05 5 C	307.0	291.8	5.2%	
SR-344O-04		8HSA-05 7.5 D	307.4	287.8	6.8%	
SR-344O-05		8HSA-05 10 E	214.5	197.7	8.5%	
SR-344O-06		8HSA-05 12,5 F	234.3	211.8	10.6%	
SR-344O-07		8HSA-05 15 G	255.8	218.3	17.2%	
SR-344O-08		8HSA-05 17.5 H	250.8	214.2	17.1%	
SR-344O-09		8HSA-05 20 I	156.1	129.2	20.8%	
SR-344O-10		8HSA-05 22.5 J	207.3	169.2	22.5%	
SR-3440-11		8HSA-05 25 K	225.5	197.7	14.1%	
SR-344O-12		8HSA-05 27.5 L	284.7	209.2	36.1%	
SR-3440-13		8HSA-05 30 M	318.0	232.0	37.1%	

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<u>Distribution:</u> Client: ✓

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File:

Supplier: Other: Addressee (2)

AMEC Earth _Environmental, Inc. 8519 Jefferson NE Albuquerque, NM 87113

Tel 5058211801 Fax 5058217371

amec Report Date: August 01, 2006

> Geomechanics Southwest Inc. Client:

P.O. Box 6527

87197-Albuquerque, NM

Branden L Sanders Attention:

Albuquerque Levees Project Name:

Albuquerque

Albuquerque, NM

Project Manager: Herman Garcia

SOILS / AGGREGATES

Project #: 6-519-004033 Work Order #: 62

Sampled By: CLIENT

Date Sampled: 06/12/2006

Sieve Analaysis (ASTM C117/C136) Plasticity Index (ASTM D4318) Soil Classification (ASTM D2487)

Soil Sample Location Class. L.L. P.I. #200 #100 #50 #40 #30	Soil Class.	L.L. P.I.	#200	#100	05# (#40	#30	#16	#16 #10	8#	#	3/8"	1/2"	3/4"	1/4" 3/8" 1/2" 3/4' 1" 1 1/4" 1 1/2" 2" 2 1/2" 3" 6" 12"	1 1/2" 2	2 1/2	 9	12"	Lab Number
8HSA-06 0 A	C C	30 13	9	83	94	97	6	86	100											SR-344P-01
8HSA-06 2.5 B	SP	N N P	3.7	24	63	92	96	66	100											SR-344P-02
8HSA-06 5 C	SP	N VP	4.0	6	16	20	43	26	28	92	70	75	80	83	100					SR-344P-03
8HSA-06 7.5 D	SP	N NP	2.1	9	20	22	23	24	61	69	72	77	79	85	100					SR-344P-04
8HSA-06 10 E	SP	N NP	2.2	9	51	21	45	22	90	99	20	77	78	85	100					SR-344P-05
8HSA-06 12.5 F	SP	N VP	2.9	6	23	31	4	54	29	29	89	71	80	98	100					SR-344P-06
8HSA-06 15 G	SP	N N	1.4	9	17	27	25	22	63	69	70	78	25	88	100					SR-344P-07

Reviewed By:

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

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Albuquerque, NM 87113
Tel 5058211801
Fax 5058217371



Geomechanics Southwest Inc.

P.O. Box 6527

Albuquerque, NM 87197-

Report Date: August 15, 2006

Project #: 6-519-004033

Report #: 454

Work Order #: 62

Sampled By: CLIENT

Date Sampled: 06/12/2006

Attn:

Project Name:

Project Manager: Herman Garcia

Branden L Sanders

Albuquerque Levees Albuquerque

Albuquerque, NM

SOILS / AGGREGATES

Lab#	Color & Type of Material	Sample Source	Wet Weight (g)	Dry Weight (g)	Moisture (%)	Dry Density (pcf)
SR-344P-01		8HSA-06 0 A	387.4	335.6	15.4%	
SR-344P-02		8HSA-06 2.5 B	615.8	535.1	15.1%	
SR-344P-03		8HSA-06 5 C	588.7	499.7	17.8%	
SR-344P-04		8HSA-06 7.5 D	345.2	288.5	19.7%	
SR-344P-05		8HSA-06 10 E	528.3	472.1	11.9%	
SR-344P-06		8HSA-06 12.5 F	461.5	394.7	16.9%	
SR-344P-07		8HSA-06 15 G	376.5	322.7	16.7%	

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Other: Addressee (2)

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Albuquerque, NM 87113 Tel 5058211801 Fax 5058217371



August 15, 2006

Geomechanics Southwest, Inc. 416-B Menaul Blvd., NW Albuquerque, NM 87107

AMEC Job No.: 6-519-004033

Lab # SR-344Q

Attn:

Branden L. Sanders

Project: Albuquerque Levees

Re:

Results of Lab Testing (8HSA-07) Performed by AMEC.

Robert Romero

Manager of Technical Services

Copies:

Addressee (2)

⊕ o mec

Report Date: August 01, 2006

Geomechanics Southwest Inc.

Client:

P.O. Box 6527

Albuquerque, NM 87197-

Albuquerque Levees Branden L Sanders

Project Name: Attention:

Albuquerque, NM

Albuquerque

Project #: 6-519-004033

Sampled By: CLIENT Work Order #: 63

Date Sampled: 06/12/2006

Sieve Analaysis (ASTM C117/C136)

Plasticity Index (ASTM D4318)

Project Manager: Herman Garcia

Soil Classification (ASTM D2487) SOILS / AGGREGATES

Soil Sample Location Class. L.L. P.I. #200 #100 #50 #40 #30	Soil Class.	L.L.	P.I.	#200	#100	#20	#40	#30	#16	#10	8#	#	1/4"	3/8"	1/2"	3/4"	÷	114" 318" 112" 314" 1" 1 114" 1 112" 2" 2 112" 3" 6" 12"	2	2 1/2"	m En	.9	12"	Lab Number
8HSA-07 0 A	CL	31	31 11	69	87	86 26	98	66	100															SR-344Q-01
8HSA-07 2.5 B	ML	⋛	NV NP	90	72	26	86	66	66	100														SR-344Q-02
8HSA-07 5 C	SP-SM		N N	10	12	28	35	99	20	72	80	83		95	66	100								SR-344Q-03
8HSA-07 7.5 D	SP-SM		N N P N	7.0	10	30	39	48	29	74	80	98		88	95	100								SR-344Q-04
8HSA-07 10 E	SP-SM	⋛	NV NP	6.5	6	31	41	20	61	20	78	82		87	93	100								SR-344Q-05
8HSA-07 12.5 F	SP-SM	Ž	N NP	9.0	10	22	59	63	26	71	84	85		96	86	100								SR-344Q-06
8HSA-07 15 G	ರ	35	35 15	92	73	87	91	92	96	26	86	66		9										SR-344Q-07

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Other: Addressee (2)

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Geomechanics Southwest Inc.

P.O. Box 6527

Albuquerque, NM 87197-

Project #: 6-519-004033

Report Date: August 15, 2006

Report #: 455

Work Order #: 63

Sampled By: CLIENT Date Sampled: 06/12/2006

Attn:

Branden L Sanders

Project Name:

Albuquerque Levees

Albuquerque Albuquerque, NM

Project Manager: Herman Garcia

SOILS / AGGREGATES

Lab #	Color & Type of Material	Sample Source	Wet Weight (g)	Dry Weight (g)	Moisture (%)	Dry Density (pcf)
SR-344Q-01		8HSA-07 0 A	220.0	197.0	11.7%	
SR-344Q-02		8HSA-07 2.5 B	389.0	337.1	15.4%	
SR-344Q-03		8HSA-07 5 C	522.1	443.8	17.6%	
SR-344Q-04		8HSA-07 7.5 D	702.0	610.3	15.0%	
SR-344Q-05		8HSA-07 10 E	731.2	603.8	21.1%	
SR-344Q-06		8HSA-07 12.5 F	642.5	549.2	17.0%	
SR-344Q-07		8HSA-07 15 G	367.8	308.5	19.2%	

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<u>Distribution:</u> Client: ✓ File: ✓ Supplier: ✓ Other: Addressee (2)

AMEC Earth _Environmental, Inc. 8519 Jefferson NE Albuquerque, NM 87113 Tel 5058211801

Fax 5058217371

Same Report Date: July 24, 2006

> Geomechanics Southwest Inc. Client:

P.O. Box 6527

87197-Albuquerque, NM Branden L Sanders Attention:

Albuquerque Levees Project Name:

Albuquerque, NM Albuquerque

Project Manager: Herman Garcia

Project #: 6-519-004033 Sampled By: CLIENT Work Order #: 47 Date Sampled: Sieve Analaysis (ASTM C117/C136)

Plasticity Index (ASTM D4318) Soil Classification (ASTM D2487)

SOILS / AGGREGATES

8HSA-08 0 A CL	Sample Location Class. L.L. P	L.L. P.I. #200 #100 #50	£200 ‡	#100	#50	#40	#30	#16	#10	8#	#	1/4" 3/8"		12	3/4.	1: 1	112" 3/4' 1" 11/4"11/2" 2" 21/2" 3"	1/2	2" 2	1/2 3	6"	12"	Number
	L 38 17	17	56	78	91	94	96	86	66	66	100											SS	SR-344A-01
	L 40 '	17	54	8	91	94	96	86	100													S	SR-344A-02
8HSA-08 5 C	37	13	45	62	78	82	85	88	06	91	97	γ-	100									S	SR-344A-03
8HSA-08 7.5 D SC	38	16	42	61	96	26	86	98	98	86	66		, 66	100								S	SR-344A-04
8HSA-08 10 E SP	Š	A D	0.7	12	92	84	95	26	98	86	66	_	100									S	SR-344A-05
8HSA-08 12.5 F SP-SM	Š	d.	11	4	31	46	62	83	88	89	92		95	. 16	100							S	SR-344A-06
8HSA-08 15 G SW-SM	N	d N	5.7	10	20	31	46	89	75	92	82		87	35	94	100						S	SR-344A-07
8HSA-08 17.5 H SP-SM	≥	٩	8.3	15	42	61	75	98	88	88	06		94	94	26	100						S	SR-344A-08
8HSA-08 20 SP-SM	SM NV NP	₽	11	12	15	21	30	47	53	55	63		73	78	62	100						S	SR-344A-09
8HSA-08 22.5.J CL	42	18	86	91	95	96	86	66	66	100												S	SR-344A-10
8HSA-08 25 K CL	35	19	54	28	98	89	91	95	96	26	66	,-	100									S	SR-344A-11
8HSA-08 27.5 L. CL	47	22	94	96	26	98	86	66	66	66	100											S	SR-344A-12
8HSA-08 30 M CL	42	19	80	89	94	96	26	98	66	66	100											S	SR-344A-13

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Albuquerque, NM 87113
Tel 5058211801
Fax 5058217371



Geomechanics Southwest Inc.

P.O. Box 6527

Albuquerque, NM 87197-

Project #: 6-519-004033

Report Date: July 24, 2006

Report #: 411

Work Order #: 47

Sampled By: CLIENT

Date Sampled:

Attn:

Branden L Sanders

Project Name:

Albuquerque Levees

Albuquerque Albuquerque, NM

Project Manager:

Herman Garcia

SOILS / AGGREGATES

Lab #	Color & Type of Material	Sample Source	Wet Weight (g)	Dry Weight (g)	Moisture (%)	Dry Density (pcf)
SR-344A-01		8HSA-08 0 A	237.4	223.5	6.2%	
SR-344A-02		8HSA-08 2.5 B	210.7	183.4	14.9%	
SR-344A-03		8HSA-08 5 C	236.2	215.1	9.8%	
SR-344A-04		8HSA-08 7.5 D	280.7	245.6	14.3%	
SR-344A-05		8HSA-08 10 E	247.8	237.7	4.2%	
SR-344A-06		8HSA-08 12.5 F	394.7	331.4	19.1%	
SR-344A-07		8HSA-08 15 G	299.9	257.9	16.3%	
SR-344A-08		8HSA-08 17.5 H	332.8	255.7	30.2%	
SR-344A-09		8HSA-08 20 I	313.6	266.0	17.9%	
SR-344A-10		8HSA-08 22.5 J	512.5	395.7	29.5%	
SR-344A-11		8HSA-08 25 K	503.0	405.9	23.9%	
SR-344A-12		8HSA-08 27.5 L	520.1	402.4	29.2%	
SR-344A-13		8HSA-08 30 M	518.7	409.3	26.7%	

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Same

Report Date: July 26, 2006

Geomechanics Southwest Inc.

Client:

P.O. Box 6527

Albuquerque, NM 87197-

Albuquerque Levees Branden L Sanders

Project Name:

Attention:

Albuquerque, NM

Albuquerque

Project #: 6-519-004033

Work Order #: 48

Sampled By: CLIENT

Date Sampled: 06/12/2006

Sieve Analaysis (ASTM C117/C136) Plasticity Index (ASTM D4318)

Soil Classification (ASTM D2487)

SOILS / AGGREGATES Project Manager: Herman Garcia

Soil Sample Location Class.	Soil Class.	L.L. P.I. #200 #100	#200	#100	#20	#40	#30	#16	#10	8#	#4	1/4"	3/8"	1/2"	3/4'	-	1/4" 3/8" 1/2" 3/4' 1" 11/4"11/2" 2" 21/2" 3"	2" 21	72" 3	6" 12"		Lab Number
8HSA-09 0 A	SM	NV NP	26	48	73	81	89	93	93	94	96		100								SR	SR-344B-01
8HSA-09 2.5 B	SM	NV NP	22	38	68	82	88	95	97	86	100										SR	SR-344B-02
8HSA-09 5 C	SM	NV NP	22	29	57	68	79	87	88	90	93		100								SR	SR-344B-03
8HSA-09 7.5 D	SM	NV NP	14	32	64	75	84	90	92	94	98		100								SR	SR-344B-04
8HSA-09 10 E	SP-SM	NV NP	7.2	17	54	78	93	26	98	86	66		100								SR	SR-344B-05
8HSA-09 12.5 F	SP-SM	NV NP	5.5	7	52	70	95	66	100												SR	SR-344B-06
8HSA-09 15 G	SP	NV NP	0.9	က	21	36	45	29	74	78	92		100								SR	SR-344B-07
8HSA-09 17.5 H	SP	NV NP	0.9	5	49	79	88	95	97	86	100										SR	SR-344B-08
8HSA-09 22.5 J	SW-SM	NV NP	9.1	12	25	4	54	69	9/	79	93		100								SR	SR-344B-09
8HSA-09 25 K	SC	47 20	48	55	63	68	74	85	93	94	66		100								SR	SR-344B-10
8HSA-09 27.5 Ľ	SC	35 13	27	30	38	20	52	65	78	80	95		100								SR	SR-344B-11
8HSA-09 30 M	SC	57 30	43	46	50	52	54	61	99	73	86		100								SR	SR-344B-12

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Other: Addressee (2)

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Geomechanics Southwest Inc.

P.O. Box 6527

Albuquerque, NM 87197-

Attn:

Branden L Sanders

Project Name:

Albuquerque Levees

Albuquerque

Albuquerque, NM

Report Date: July 26, 2006

Project #: 6-519-004033

Report #: 417

Work Order #: 48

Sampled By: CLIENT

Date Sampled: 06/12/2006

Project Manager:

Herman Garcia

SOILS / AGGREGATES

Lab #	Color & Type of Material	Sample Source	Wet Weight (g)	Dry Weight (g)	Moisture (%)	Dry Density (pcf)
SR-344B-01	1 1000000000000000000000000000000000000	8HSA-09 0 A	293.0	283.6	3.3%	
SR-344B-02		8HSA-09 2.5 B	210.3	200.7	4.8%	
SR-344B-03		8HSA-09 5 C	202.1	198.6	1.8%	
SR-344B-04		8HSA-09 7.5 D	255.8	248.5	2.9%	
SR-344B-05		8HSA-09 10 E	280.1	275.5	1.7%	
SR-344B-06		8HSA-09 12.5 F	266.6	259.0	2.9%	
SR-344B-07		8HSA-09 15 G	240.9	206.7	16.5%	
SR-344B-08		8HSA-09 17.5 H	254.6	213.0	19.5%	
SR-344B-09		8HSA-09 22.5 J	269.6	215.6	25.0%	
SR-344B-10		8HSA-09 25 K	128.4	92.9	38.2%	
SR-344B-11		8HSA-09 27.5 L	120.6	91.5	31.8%	
SR-344B-12		8HSA-09 30 M	124.4	91.9	35.4%	

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amec

Report Date: July 26, 2006

Geomechanics Southwest Inc.

Client:

P.O. Box 6527

Albuquerque, NM 87197-

Albuquerque Levees Branden L Sanders

Project Name: Attention:

Albuquerque, NM

Albuquerque

Project Manager: Herman Garcia

Project #: 6-519-004033

Work Order #: 49

Date Sampled: 06/12/2006 Sampled By: CLIENT

Sieve Analaysis (ASTM C117/C136)

Plasticity Index (ASTM D4318) Soil Classification (ASTM D2487)

SOILS / AGGREGATES

Soil Sample Location Class. L.L. P.I. #200 #100 #50	Soil Class.	L.L. P.I.	#2(00 #1	# 00	# 09	#40	#30 #	#16	#10	8#	4	1/4" 3	18" 1	12 3	3/4.	1. 1,	1/4" 1 1/	2" 2	. 2112	ë.	9	12"	Lab #16 #10 #8 <mark>#4</mark> 1/4" 3/8" 1/2" 3/4' 1" 11/4"11/2" 2" 21/2" 3" 6" 12" Number
8HSA-10 0 A	SC	33 13		8	44	38 44 47 51		99	99	70	92	98	,	100										SR-344C-01
8HSA-10 2.5B	SP-SM	SP-SM NV NP		9.1	17	55	65	74	92	9/	77	78		. 62	62	79 79	79	100	0					SR-344C-02
8HSA-10 5 C	SP-SM	NV NP		5.5	13	45	29	84	96	86	66	100												SR-344C-03
8HSA-10 7.5 D	SP	NV NP		0.7	4	23	37	20	72	80	85	93		100										SR-344C-04
8HSA-10 10 E	SP	NV NP		2.2	en en	10	24	33	58	65	74	84		100										SR-344C-05
8HSA-10 12.5 F	SP	NV NP		4.1	ი ი	33	46	29	98	91	95	66		100										SR-344C-06
8HSA-10 15 G	SP	N N N		4.1	10	36	55	72	92	95	26	66		100										SR-344C-07

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Albuquerque, NM 87113
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Geomechanics Southwest Inc.

P.O. Box 6527

Albuquerque, NM 87197-

Report Date: July 26, 2006

Project #: 6-519-004033

Report #: 418

Work Order #: 49

Sampled By: CLIENT

Date Sampled: 06/12/2006

Attn:

Project Name:

Project Manager: Herman Garcia

Branden L Sanders Albuquerque Levees

Albuquerque

Albuquerque, NM

SOILS / AGGREGATES

Lab #	Color & Type of Material	Sample Source	Wet Weight (g)	Dry Weight (g)	Moisture (%)	Dry Density (pcf)
SR-344C-01	L-150	8HSA-10 0 A	232.3	216.6	7.2%	
SR-344C-02		8HSA-10 2.5B	201.9	196.3	2.9%	
SR-344C-03		8HSA-10 5 C	221.3	214.5	3.2%	
SR-344C-04		8HSA-10 7.5 D	252.9	218.5	15.7%	
SR-344C-05		8HSA-10 10 E	237.7	207.2	14.7%	
SR-344C-06		8HSA-10 12.5 F	199.7	166.3	20.1%	
SR-344C-07		8HSA-10 15 G	229.3	191.8	19.6%	

Reviewed By:_

Distribution: Client: ✓

File:

Supplier: Other: Addressee (2)

Email:

AMEC Earth Environmental, Inc. 8519 Jefferson NE

Albuquerque, NM 87113 Tel 5058211801 Fax 5058217371

amec

Report Date: July 26, 2006

Geomechanics Southwest Inc.

Client:

87197-

Albuquerque, NM

P.O. Box 6527

Project #: 6-519-004033

Work Order #: 50

Date Sampled: 06/12/2006

Sampled By: CLIENT

Sieve Analaysis (ASTM C117/C136) Plasticity Index (ASTM D4318)

Soil Classification (ASTM D2487)

Project Manager: Herman Garcia

Albuquerque Levees Branden L Sanders

Project Name:

Attention:

Albuquerque, NM

Albuquerque

SOILS / AGGREGATES

SR-344D-02 SR-344D-03 SR-344D-04 SR-344D-05 SR-344D-06 SR-344D-07 SR-344D-01 Number 12" ė က 2 1/2" 5 1" 11/4" 11/2" 100 3/4, 88 1/2" 88 3/8" 100 100 100 100 88 1/4" 100 100 98 98 89 # 97 87 66 98 96 82 85 # 94 #10 99 78 84 6 99 97 96 #16 88 99 98 88 74 8 97 #30 95 93 91 9 61 74 #40 86 83 78 40 48 68 #200 #100 #50 56 68 62 57 25 8 6 23 12 38 17 0.8 4.2 2.7 L.L. P.I. NV NP N NP N N N NP N NP N N NV NP SP-SM Soil Class. S SP SP SP SP SP Sample Location 8HSA-11 12.5 F 8HSA-11 7.5 D 8HSA-11 2.5 B 8HSA-11 10 E 8HSA-11 15 G 8HSA-11 5 C 8HSA-11 0 A

Reviewed By:

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Supplier:

Other: Addressee (2)

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Albuquerque, NM 87113 Tel 5058211801 Fax 5058217371



Geomechanics Southwest Inc.

P.O. Box 6527

Albuquerque, NM 87197-

Report Date: July 26, 2006

Project #: 6-519-004033

Report #: 419

Work Order #: 50

Sampled By: CLIENT

Date Sampled: 06/12/2006

Attn:

Branden L Sanders Albuquerque Levees

Albuquerque

Albuquerque, NM

Project Manager:

Project Name:

Herman Garcia

SOILS / AGGREGATES

Lab #	Color & Type of Material	Sample Source	Wet Weight (g)	Dry Weight (g)	Moisture (%)	Dry Density (pcf)
SR-344D-01		8HSA-11 0 A	257.0	255.1	0.7%	
SR-344D-02		8HSA-11 2.5 B	250.9	244.9	2.4%	
SR-344D-03		8HSA-11 5 C	274.5	266.8	2.9%	
SR-344D-04		8HSA-11 7.5 D	253.8	217.3	16.8%	
SR-344D-05		8HSA-11 10 E	249.7	213.0	17.2%	
SR-344D-06		8HSA-11 12.5 F	229.7	199.8	15.0%	
SR-344D-07		8HSA-11 15 G	249.0	212.5	17.2%	

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File:

Supplier: Other: Addressee (2)

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Albuquerque, NM 87113 Tel 5058211801 Fax 5058217371

Report Date: July 26, 2006

Geomechanics Southwest Inc.

Clent

Albuquerque, NM 87197-

P.O. Box 6527

Albuquerque Levees Branden L Sanders

> Project Name: Attention:

Albuquerque, NM

Albuquerque

Project #: 6-519-004033 Date Sampled: 06/12/2006 Sampled By: CLIENT Work Order #: 51

Slove Analaysis (ASTM C117/C136)

Plasticity Index (ASTM D4318) Soll Classification (ASTM D2487)

SOILS / AGGREGATES Project Manager: Herman Garcia

	ijo§			,	•			9	1		4	1/4" 3	3/8" 1	1/2" 3		314' 1" 11/4" 11/2" 2" 21/2" 3"	1 1/2"	 2 172"	6	<u>5</u>	Number
Sample Location Class.		L.L. P.I. #200 #100 #50 #40	#200	# #	2 #	- 1	3	- 1	- 1		•				100	9					SR-344E-01
PUCA_19 D.A	SP-SM	N NP	9.4	z	5	88	40	E	28	5	2					2					SR-344E-02
21-00-15-07-	2	₩ 2 2 3	4	8	80 40	8	8	ጄ	88	64	86	-	3								SR-344E-03
BHSM-12 2.3 G	3	az N	5	દ્ધ	82	2	8	8	98	\$	8		8								SR-344E-04
8H3A-14.3 C	. J		6	S	8	8	8	50	16	81	8		8								SR-344E-05
6H3A-127.3L		N N N N N N N N N N N N N N N N N N N	23	4	20	6	8	8	9	\$	8		8								SR-344E-08
8H3A-16 10 E	8	N N	2, 13	5	1.C)	8	6	98	8	28	\$		2								SR-344E-07
8H3M-12 12.3T	S C	<u>₹</u>	4.5	2	42	89	2	8	g,	88	8		5	;	•						SR-344E-08
6H5A-12 13 G	SP-SM	N ≥ N	6.0	æ	29	45	8	89	99	8	88		8	88	3						SR-344E-09
Aug 12.21	dS	S S	4.4	60	42	.64	25	85	\$	88	5										SR-344E-10
9HSA-12 25 K	හ ස	SN SN	£.	=	7	S S		\$	92	호 8	ş										SR-344E-11
8HSA-12 27.5 L	SP-SM	1	NV NP 4.6 11 38	-	B	4	8	\$D 9/	6	2	3										

Reviewed By:

Client V File: Supplier: K

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Other: Addressee (2)

AMEC Earth Environmental, Inc.

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Client:

Geomechanics Southwest Inc.

P.O. Box 6527

Albuquerque, NM 87197-

Attn:

Branden L Sanders

Project Name:

Albuquerque Levees

Albuquerque

Albuquerque, NM

Besinet Manager Herman Garcia

SOILS / AGGREGATES

Report Date: July 26, 2006

Project #: 6-519-004033

Report #: 420

Work Order #: 51 Sampled By: CLIENT

Date Sampled: 06/12/2006

Lab # Color & Type of Material Sample Source SR-344E-01 8HSA-12 0 A SR-344E-02 8HSA-12 2.5 B SR-344E-03 8HSA-12 7.5 D SR-344E-04 8HSA-12 10 E	261.2 289.5 275.0 240.0	256.9 278.0 265.0	1.7% 4.1% 3.8%	
SR-344E-05 SR-344E-06 SR-344E-07 SR-344E-08 SR-344E-09 SR-344E-10 SR-344E-10 SR-344E-11	276.6 276.8 223.8 227.0 200.0 155.2 165.7	231.6 267.4 270.2 199.4 199.2 176.4 148.6 157.2	3.6% 3.4% 2.4% 12.2% 14.0% 13.4% 4.4%	

Reviewed By: 111-11-11

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Email: 🗆

File: Supplier: Other: Addressee (2)

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Same

Geomechanics Southwest Inc Client:

416-B Menaul Blvd NW

Albuquerque, NM 87107-

Albuquerque Levees Branden L. Sanders Project Name: Attention:

Albuquerque

Albuquerque, NM

Project Manager: Herman Garcia

Project #: 6-519-004033

Report Date: July 03, 2006

Work Order #: 1

Sampled By: Client

Date Sampled: 06/21/2006

Sieve Analaysis (ASTM C117/C136) Plasticity Index (ASTM D4318)

Soil Classification (ASTM D2487)

SOILS / AGGREGATES

Lab Number

12"

و.

3

2" 2 1/2"

6-0820

1" 11/4" 11/2" 1/2" 3/4' 3/8" 1/4" Soil Class. Sample Location

#4 8# #10 #16 100 #30 #40 #200 #100 #50 L.L. P.I. N NP NP

8 HSA - 13 C5'

Reviewed By: Z

Distribution: Client: ☑ File: ☑ Supplier: ☑ Email: ☐

Other: Addressee (2)

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8519 Jefferson NE Albuquerque, NM 87113 Tel 5058211801 Fax 5058217371



Geomechanics Southwest Inc

416-B Menaul Blvd NW Albuquerque, NM 87107-

Attn:

Branden L. Sanders

Project Name:

Albuquerque Levees

Albuquerque Albuquerque, NM Report Date: July 03, 2006

Project #: 6-519-004033

Report #: 371

Work Order #: 1 Sampled By: Client

Date Sampled: 06/21/2006

Project Manager:

Herman Garcia

SOILS / AGGREGATES

Lab#	Color & Type of Material	Sample Source	Wet Weight (g)	Dry Weight (g)	Moisture (%)	Dry Density (pcf)
6-0820		8 HSA - 13 C5'	378.3	368.1	2 8%	

Reviewed By:

Distribution: Client: 🗸

Email: _ j

File: Supplier: Other: Addressee (2)

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Geomechanics Southwest Inc. Client:

P.O. Box 6527

Albuquerque, NM 87197-

Branden L Sanders Attention:

Albuquerque Levees Project Name:

Albuquerque

Albuquerque, NM

Report Date: July 26, 2006

Project #: 6-519-004033 Work Order #: 52

Date Sampled: 06/12/2006 Sampled By: CLIENT

Sieve Analaysis (ASTM C117/C136) Plasticity Index (ASTM D4318)

Soil Classification (ASTM D2487)

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Soil Sample Location Class.	L.L. P.I. #200 #100 #50	#200	#100	#20	#40	#30	#16	#10	8#	#4	1/4" 3/8"	112.	3/4	+	1/4" 3/8" 1/2" 3/4' 1" 11/4"11/2" 2" 21/2" 3"	2" 21/	2 3	9	12	Lab Number
	N N N	22	42	78	86	06	93	94	94	95	96	100							0,	SR-344F-01
	N VN	3.1	15	37	49	69	72	62	81	87	95	100	_						0,	SR-344F-02
	NV NP	10	23	22	72	81	88	91	93	86	100								٠,	SR-344F-03
	N NP	8.3	19	48	9	29	73	9/	11	8	84	85	88	100	0				0,	SR-344F-04
	N NP	4.1	17	55	74	84	91	94	96	98	100								0,	SR-344F-05
	NV NP	7	28	20	58	63	71	78	80	91	98	100	0						0,	SR-344F-06
	N N N	4	27	69	86	93	96	26	26	66	100									SR-344F-07
	N NP	3.9	19	49	79	88	96	86	86	66	66	100	0						•	SR-344F-08
	NV NP	2.6	5	77	94	98	66	26	100											SR-344F-09
	N NP	4.1	7	21	31	43	62	70	11	9/	84	100	0							SR-344F-10
	N NP	=======================================	15	32	40	47	94	26	73	11	81	100	0						•	SR-344F-11
	N NP	5.7	6	23	30	37	53	62	63	29	71	72	72	100	0					SR-344F-12

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File:

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Geomechanics Southwest Inc.

P.O. Box 6527

Albuquerque, NM 87197-

Attn:

Branden L Sanders

Project Name:

Albuquerque Levees

Albuquerque

Albuquerque, NM

Report Date: July 27, 2006

Project #: 6-519-004033

Report #: 421

Work Order #: 52

Sampled By: CLIENT

Date Sampled: 06/12/2006

Project Manager: Herman Garcia

SOILS / AGGREGATES

Lab#	Color & Type of Material	Sample Source	Wet Weight (g)	Dry Weight (g)	Moisture (%)	Dry Density (pcf)
SR-344F-01		8HSA-14 0 A	288.4	281.4	2.5%	
R-344F-02		8HSA-14 2.5 B	282.7	260.0	8.7%	
SR-344F-03		8HSA-14 5 C	284.9	267.7	6.4%	
SR-344F-04		8HSA-14 7.5 D	215.6	198.4	8.7%	
SR-344F-05		8HSA-14 10 E	291.5	258.0	13.0%	
SR-344F-06		8HSA-14 12.5 F	220.9	180.9	22.1%	
SR-344F-07		8HSA-14 15 G	286.1	267.9	6.8%	
SR-344F-08		8HSA-14 17.5 H	282.1	236.4	19.3%	
SR-344F-09		8HSA-14 20 I	293.1	241.7	21.3%	
SR-344F-10		8HSA-14 22.5 J	217.9	190.6	14.3%	
SR-344F-11		8HSA-14 25 K	322.1	277.7	1 <mark>6.0%</mark>	
SR-344F-12		8HSA-14 27.5 L	219.5	192.4	14.1%	

Reviewed By:

Distribution: Client ✓

Email:

File: Supplier: Other: Addressee (2)

AMEC Earth Environmental, Inc. 8519 Jefferson NE Albuquerque, NM 87113

Tel 5058211801 Fax 5058217371

@Dame g

Report Date: July 27, 2006

Geomechanics Southwest Inc.

Client:

87197-

Albuquerque, NM

P.O. Box 6527

Albuquerque Levees

Project Name:

Attention:

Albuquerque, NM

Albuquerque

Project Manager: Herman Garcia

Branden L Sanders

Project #: 6-519-004033

Work Order #: 53

Sampled By: CLIENT

Date Sampled: 06/12/2006

Sieve Analaysis (ASTM C117/C136)

Plasticity Index (ASTM D4318) Soil Classification (ASTM D2487) SOILS / AGGREGATES

Soil Sample Location Class. L.L. P.I. # <mark>20</mark> 0 #100 #50 # <mark>4</mark> 0 #30 #16 #10	Soil Class.	L.L. P.I.	#200	#100	#20	#40	#30	#16	#10	8#	, #4	1/4" 3/		12" 3/	. 1	Lab #4 1/4" 3/8" 1/2" 3/4' 1" 11/4"11/2" 2" 21/2" 3" 6" 12" Number	2".	2 1/2"	<u>ښ</u>	.9	12"	Lab
8HSA-150A	SP-SM	NV NP	5.5	12	36	43	46	20	51	51	65	"		100								SR-344G-01
8HSA-15 2.5 B	SP	NV NP	3.8	12	46	69	83	93	96	26	66	7	100									SP 344G 02
8HSA-15 5 C	SP-SM	NV NP	4.6	19	9	81	93	86	66	66	100											SR-344G-02
8HSA-15 7.5 D	SP	NV NP	2.8	19	54	29	78	91	95	96	98	7	100									SR-344G-04
8HSA-15 10 E	SP-SM	NV NP	8.6	18	46	9	70	82	98	87	90	o	95 1	100								SR-344G-05
8HSA-15 12.5 F	SP	NV NP	1.7	7	29	39	51	69	75	92	82	o	92 1	100								SR-344G-06
8HSA-15 15 G	SW-SM	N NP	7.8	13	31	43	99	72	79	81	06	6	99 1	100								SR-344G-07

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Geomechanics Southwest Inc.

P.O. Box 6527

Albuquerque, NM 87197-

Project #: 6-519-004033

Report Date: July 27, 2006

Report #: 422 Work Order #: 53

Sampled By: CLIENT

Attn:

Branden L Sanders

Project Name:

Albuquerque Levees

Albuquerque Albuquerque, NM

Date Sampled: 06/12/2006

Project Manager:

Herman Garcia

SOILS / AGGREGATES

Lab #	Color & Type of Material	Sample Source	Wet Weight (g)	Dry Weight (g)	Moisture (%)	Dry Density (pcf)
SR-344G-01		8HSA-15 0 A	235.1	228.5	2.9%	
SR-344G-02		8HSA-15 2.5 B	240.1	232.7	3.2%	
SR-344G-03		8HSA-15 5 C	282.3	275.1	2.6%	
SR-344G-04		8HSA-15 7.5 D	369.8	311.8	18.6%	
SR-344G-05		8HSA-15 10 E	115.8	96.9	19.5%	
SR-344G-06		8HSA-15 12.5 F	167.3	145.3	15.1%	
SR-344G-07		8HSA-15 15 G	187.7	172.1	9.1%	

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AMEC Earth Environmental, Inc. 8519 Jefferson NE Albuquerque, NM 87113

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Report Date: July 28, 2006

Geomechanics Southwest Inc.

Client:

87197-

Albuquerque, NM

P.O. Box 6527

Albuquerque Levees

Project Name: Attention:

Albuquerque, NM

Albuquerque

Branden L Sanders

Project #: 6-519-004033 Work Order #: 54

Sampled By: CLIENT

Date Sampled: 06/12/2006

Sieve Analaysis (ASTM C117/C136) Plasticity Index (ASTM D4318)

Soil Classification (ASTM D2487)

Project Manager: Herman Garcia

SOILS / AGGREGATES

Soil Sample Location Class.	Soil Class.	L.L. P.I.		#200 #100 #50 #40	#20	#40	#30	#16	#10	88	*	1/4" 3/8"	.8	112" 314	÷	3/4' 1" 11/4"11/2" 2" 21/2" 3"	 2" 21	72" 3"	•	12"	Lab Number
8HSA-16 0 A	SM	NV NP	28	20	83	06	93	95	95	96	96		98 10	100				ı			SR-344H-01
8HSA-16 2.5 B	SM	N VP	43	92	93	96	26	98	66	66	100										SR-344H-02
8HSA-16 5 C	SM	N N N	4	22	80	88	91	94	95	96	97	3,	99 10	100							SR-344H-03
8HSA-16 7.5 D	SM	N NP	18	38	20	82	89	94	96	96	98	5,	99 1(100							SR-344H-04
8HSA-16 10 E	SM	N NP	36	78	88	90	92	93	94	94	96	3,	98 1(100							SR-344H-05
8HSA-16 12.5 F	SM	N NP	4	35	89	97	66	100													SR-344H-06
8HSA-16 15 G	SM	N NP	35	20	71	74	9/	77	28	78	80	~	87 1(100							SR-344H-07
8HSA-16 17.5 H	SP	NV NP	1.	4	27	57	79	93	96	97	98	٠,	99 10	100							SR-344H-08
8HSA-16 20 I	SP-SM	N NP	12	28	4	53	63	73	22	77	81	w	84 8	85 86	100	0					SR-344H-09
8HSA-16 22.5 J	SP	N NP	1:1	က	15	31	48	7.1	79	81	98	3,	92 9	95 100	0						SR-344H-10
8HSA-16 25 K	SM	N NP	16	23	44	50	53	56	25	22	69	5,	92 1(100							SR-344H-11
8HSA-16 30 M	SM	N NP	17	21	27	34	44	71	80	81	88	<i>3,</i>	99 10	100							SR-344H-12

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Other: Addressee (2)

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Albuquerque, NM 87113
Tel 5058211801
Fax 5058217371



Attn:

Geomechanics Southwest Inc.

P.O. Box 6527

Albuquerque, NM 87197-

Project #: 6-519-004033

Report Date: July 28, 2006

Report #: 423

Work Order #: 54

Branden L Sanders Sampled By: CLIENT Albuquerque Levees

Albuquerque Albuquerque, NM Date Sampled: 06/12/2006

Project Manager: Herman Garcia

Project Name:

SOILS / AGGREGATES

Lab #	Color & Type of Material	Sample Source	Wet Weight (g)	Dry Weight (g)	Moisture (%)	Dry Density (pcf)
SR-344H-01		8HSA-16 0 A	283.3	282.1	0.4%	
SR-344H-02		8HSA-16 2.5 B	272.2	264.1	3.1%	
SR-344H-03		8HSA-16 5 C	260.5	248.6	4.8%	
SR-344H-04		8HSA-16 7.5 D	250.0	241.7	3.4%	
SR-344H-05		8HSA-16 10 E	213.5	205.7	3.8%	
SR-344H-06		8HSA-16 12.5 F	261.5	253.7	3.1%	
SR-344H-07		8HSA-16 15 G	271.6	244.3	11.2%	
SR-344H-08		8HSA-16 17.5 H	290.3	275.0	5.6%	
SR-344H-09		8HSA-16 20 I	283.7	233.2	21.7%	
SR-344H-10		8HSA-16 22.5 J	280.6	243.9	15.0%	
SR-344H-11		8HSA-16 25 K	281.5	259.1	8.6%	
SR-344H-12		8HSA-16 30 M	263.0	207.4	26.8%	

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Other: Addressee (2)

AMEC Earth Environmental, Inc. 8519 Jefferson NE

Albuquerque, NM 87113 Tel 5058211801 Fax 5058217371

Same

Report Date: July 28, 2006

Geomechanics Southwest Inc.

Client:

P.O. Box 6527

Albuquerque, NM 87197-

Albuquerque Levees Branden L Sanders

Project Name: Attention:

Albuquerque, NM

Albuquerque

Project #: 6-519-004033

Sampled By: CLIENT Work Order #: 55

Date Sampled: 06/12/2006

Sieve Analaysis (ASTM C117/C136)

Plasticity Index (ASTM D4318)

Project Manager: Herman Garcia

SOILS / AGGREGATES

Soil Classification (ASTM D2487)

Reviewed By:

File: Distribution: Client: ✓ Email:

Supplier: Other: Addressee (2)

AMEC Earth ,Environmental, Inc. 8519 Jefferson NE
Albuquerque, NM 87113
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Geomechanics Southwest Inc.

P.O. Box 6527

Albuquerque, NM 87197-

Report Date: July 28, 2006

Project #: 6-519-004033

Report #: 424

Work Order #: 55

Sampled By: CLIENT

Date Sampled: 06/12/2006

Attn:

Branden L Sanders

Project Name:

Albuquerque Levees

Albuquerque

Albuquerque, NM

Project Manager: Herman Garcia

SOILS / AGGREGATES

Lab#	Color & Type of Material	Sample Source	Wet Weight (g)	Dry Weight (g)	Moisture (%)	Dry Density (pcf)
SR-344I-01		8HSA-17 0 A	272.8	270.2	1.0%	
SR-344I-02		8HSA-17 2.5 B	285.3	277.3	2.9%	
SR-344I-03		8HSA-17 5 C	266.9	255.8	4.3%	
SR-344I-04		8HSA-17 7.5 D	251.8	241.0	4.5%	
SR-344I-05		8HSA-17 10 E	269.1	208.3	29.2%	
SR-344I-06		8HSA-17 12.5 F	292.7	280.2	4.5%	
SR-344I-07		8HSA-17 15 G	282.1	233.1	21.0%	
SR-344I-08		8HSA-17 22.5 J	266.5	242.7	9.8%	
SR-344I-09		8HSA-17 25 K	207.2	190.3	8.9%	
SR-344I-10		8HSA-17 30 M	210.5	170.3	23.6%	

Reviewed By:

Distribution: Client: ✓

Email:

File:

Supplier: 🗹

Other: Addressee (2)

AMEC Earth Environmental, Inc. 8519 Jefferson NE

Albuquerque, NM 87113

Tel 5058211801 Fax 5058217371

Same

Report Date: July 28, 2006

Geomechanics Southwest Inc.

Client:

87197-

Albuquerque, NM

P.O. Box 6527

Albuquerque Levees

Project Name: Attention:

Albuquerque, NM

Albuquerque

Project Manager: Herman Garcia

Branden L Sanders

Project #: 6-519-004033

Work Order #: 56

Date Sampled: 06/12/2006 Sampled By: CLIENT

Sieve Analaysis (ASTM C117/C136) Plasticity Index (ASTM D4318)

Soil Classification (ASTM D2487)

SOILS / AGGREGATES

Soil Sample Location Class. L.L. P.I. #200 #100 #50 #40	Soil Class.	L.L. P.I.	#200	0 #100	#20	#40	#30	#16	#16 #10	8#	#	1/4"	3/8"	1/2"	3/4'	<u>.</u>	Lab 1/4" 3/8" 1/2" 3/4' 1" 11/4"11/2" 2" 21/2" 3" 6" 12" Number	12	2 2 1	112" 3		1 Z	ab Imber
8HSA-18 0 A	SM	NV NP	28	28 40 57	57	69	77	87	92	93	96		66	100								SR-3	SR-344J-01
8HSA-18 2.5 B	SM	NV NP	24	34	55	70	77	82	85	87	96		98	100								SR-3	3R-344J-02
8HSA-18 5 C	SM	NV NP	27	63	90	93	95	96	97	26	66		100									SR-3	SR-344J-03
8HSA-18 7.5 D	SP-SM	N NP	7	30	64	75	83	95	92	96	66		100									SR-3	SR-344J-04
8HSA-18 10 E	SP	NV NP	2.9	9	15	24	33	20	09	62	72		83	100								SR-3	SR-344J-05
8HSA-18 12.5 F	SP-SM	NV NP	8.4	10	13	4	4	18	22	31	54		70	100								SR-3	SR-344J-06
8HSA-18 15 G	SP	NV NP	2.6	2.6 7 14 18	14	18	28	48	09	63	78		93	901								SR-3	SR-344J-07

Reviewed By:

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

AMEC Earth .Environmental, Inc. 8519 Jefferson NE
Albuquerque, NM 87113
Tel 5058211801
Fax 5058217371



Geomechanics Southwest Inc.

P.O. Box 6527

Albuquerque, NM 87197-

Project #: 6-519-004033

Report Date: July 28, 2006

Report #: 425

Work Order #: 56

Sampled By: CLIENT

Date Sampled: 06/12/2006

Attn:

Branden L Sanders Albuquerque Levees

Albuquerque

Albuquerque, NM

Project Manager: Herman Garcia

Project Name:

SOILS / AGGREGATES

Color & Type of Material	Sample Source	Wet Weight (g)	Dry Weight (g)	Moisture (%)	Dry Density (pcf)
	8HSA-18 0 A	219.0	212.7	3.0%	
	8HSA-18 2.5 B	259.6	207.5	25.1%	
	8HSA-18 5 C	259.1	223.2	16.1%	
	8HSA-18 7.5 D	298.8	252.4	18.4%	
	8HSA-18 10 E	266.5	233.3	14.2%	
	8HSA-18 12.5 F	203.0	178.1	14.0%	
	8HSA-18 15 G	280.4	243.6	15.1%	
	Color & Type of Material	8HSA-18 0 A 8HSA-18 2.5 B 8HSA-18 5 C 8HSA-18 7.5 D 8HSA-18 10 E 8HSA-18 12.5 F	Color & Type of Material Sample Source (g) 8HSA-18 0 A 219.0 8HSA-18 2.5 B 259.6 8HSA-18 5 C 259.1 8HSA-18 7.5 D 298.8 8HSA-18 10 E 266.5 8HSA-18 12.5 F 203.0	Color & Type of Material Sample Source (g) (g) 8HSA-18 0 A 219.0 212.7 8HSA-18 2.5 B 259.6 207.5 8HSA-18 5 C 259.1 223.2 8HSA-18 7.5 D 298.8 252.4 8HSA-18 10 E 266.5 233.3 8HSA-18 12.5 F 203.0 178.1	Color & Type of Material Sample Source (g) (g) (%) 8HSA-18 0 A 219.0 212.7 3.0% 8HSA-18 2.5 B 259.6 207.5 25.1% 8HSA-18 5 C 259.1 223.2 16.1% 8HSA-18 7.5 D 298.8 252.4 18.4% 8HSA-18 10 E 266.5 233.3 14.2% 8HSA-18 12.5 F 203.0 178.1 14.0%

Reviewed By:

Distribution: Client: ✓

Email:

File:

Supplier: Other: Addressee (2)

AMEC Earth _Environmental, Inc. 8519 Jefferson NE Albuquerque, NM 87113 Tel 5058211801

Fax 5058217371



Report Date: July 03, 2006

Geomechanics Southwest Inc

Client:

Albuquerque, NM 87107-416-B Menaul Blvd NW

Albuquerque Levees Branden L. Sanders

Project Name: Attention:

Albuquerque, NM

Albuquerque

Project #: 6-519-004033

Sampled By: Client Work Order #: 2 Date Sampled: Sieve Analaysis (ASTM C117/C136) Plasticity Index (ASTIM D4318)

Soil Classification (ASTM D2487)

Project Manager: Herman Garcia

SOILS / AGGREGATES

Soil Soil #200 #100	Soil	9	#200	#100	#50	#40	#30	#16	#10	8#	#4	1/4" 3	/8" 1	12 3	.4.	1: 11	114" 318" 112" 314' 1" 1 114" 1 112" 2" 2 112" 3"	2 2	2 112	 .9	12"	Lab Number
Sample Location	Class.		2/40		- 1		1	1	100	000	000		5									6-0821-01
8HSA-19 A 0'	SM	N N N	2	32	7.8	D D	ç S	96	, R	0	000		3									6 0821 02
8HSA-19 B 2.5'	SM	N NP	24	39	80	86	66	100														6.0821.02
8HSA-19 C 5'	SM	NV NP	27	43	69	81	88	94	92	96	26		66	99	100							6-0621-03
8HSA-19 D 7.5'	SM	N NP	18	35	73	85	92	26	86	66	66		100									6-0821-04
8HSA-19 E 10'	ML	20 2	51	83	93	96	98	66	100													6-1280-9
8HSA-19 F 12.5'	SP-SM	dN VN	8.8	31	80	94	66	100														6-0821-06
8HSA-19 G 15'	SP	N NP	5.	5	28	55	9/	91	96	96	66		100									9-0821-0/
8HSA-19 H 17.5'	s S	N NP	1.7	5	24	43	56	72	8	82	06		94	96	100							6-0821-08
8HSA-19120'	SP	NV NP	4	4	15	30	38	51	59	61	7.1		81	85	93	100						6-0821-09
8HSA-19 K 25'	S	N NP	0.8	က	10	21	36	25	99	7.1	82		83	91	100							6-0821-10
8HSA-19 L 27.5'	SP	N VP	4.2	∞	21	40	22	9/	82	83	87		92	93	100							6-0821-11
8HSA-19 M 30'	SP-SM	NV NP	5.0	9	12	20	32	52	63	65	74		83	98	100							6-0821-12

Reviewed By:

Distribution: Client: ♥ File: ♥ Supplier: ♥ Email: □

Other: Addressee (2)

AMEC Earth _Environmental, Inc. 8519 Jefferson NE

Albuquerque, NM 87113 Tel 5058211801 Fax 5058217371



Geomechanics Southwest Inc

416-B Menaul Blvd NW Albuquerque, NM 87107-

Attn:

Branden L. Sanders

Project Name:

Albuquerque Levees

Albuquerque Albuquerque, NM

Project Manager:

Herman Garcia

Report Date: July 03, 2006

Project #: 6-519-004033

Report #: 369

Work Order #: 2 Sampled By: Client

Date Sampled:

SOILS / AGGREGATES

Lab #	Color & Type of Material	Sample Source	Wet Weight (g)	Dry Weight (g)	Moisture (%)	Dry Density (pcf)
6-0821-01		8HSA-19 A 0'	283.8	279.8	1.4%	<u> </u>
6-0821-02		8HSA-19 B 2.5'	326.6	314,7	3.8%	
6-0821-03		8HSA-19 C 5'	325.0	311.7	4.3%	
6-0821-04		8HSA-19 D 7 5'	309.5	302.7	2.2%	
6-0821-05		8HSA-19 E 10'	323.3	304.7	6.1%	
6-0821-06		8HSA-19 F 12.5'	121.5	120.1	1.2%	
6-0821-07		8HSA-19 G 15'	324.7	317.9	2.1%	
6-0821-08		8HSA-19 H 17,5'	372.1	315.0	18.1%	
5-0821-09		8HSA-19 I 20'	279.0	247.3	12.8%	
6-0821-10		8HSA-19 K 25'	243.5	212.9	14.4%	
6-0821-11		8HSA-19 L 27.5'	263.9	226.4	16.6%	
6-0821-12		8HSA-19 M 30'	318.0	280.4	13.4%	

Reviewed By:

Distribution: Client: ✓

Email:

File: 🗸

Supplier: 🗹

Other: Addressee (2)

AMEC Earth Environmental, Inc. 8519 Jefferson NE Albuquerque, NM 87113 Tel 5058211801

Fax 5058217371



Report Date: July 05, 2006

Project #: 6-519-004033

Geomechanics Southwest Inc

Client:

Albuquerque, NM 87107-416-B Menaul Blvd NW

Albuquerque Levees Branden L. Sanders

> Project Name: Attention:

Albuquerque

Work Order #: 3

Sampled By: Client

Date Sampled:

Sieve Analaysis (ASTM C117/C136)

Plasticity Index (ASTM D4318)

Albuquerque, NM

	Lab Number
	12"
37)	9
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Soil Classification (ASTM D2487)	Lab
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AGGRE	-
SOILS / AGGREGATES	
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n Garc	
Herma	3
Poject Manager:	

	Soil		•	;	i i	2		#16 #10 #8	#10	CC 71	44	1/4"	3/8"	1/2"	3/4'	.	1/4" 1 1/2	2	2 1/2'	. 3.	9	12"	#4 114" 3/8" 1/2" 3/4' 1" 11/4" 11/2" 2" 21/2" 3" 6" 12" Number
ö	ass.	Sample Location Class. L.L. P.I. #200 #100 #50 #40 #30	#200	#100	nc#	140	- 1	2															6-0822-01
1 1%	NS-	SP-SM NV NP	8.6	8.6 34 87	87	26	66	100															6-0822-02
S	SP-SM	N NP	6.6	30	84	26	100																6-0822-03
	SM	N NP	16	45	93	66	100																6-0822-04
	SP	NV NP	2.2	15	71	89	96	66	100														6-0822-05
	SP	NV NP	2.7	19	87	94	98	100															6-0822-06
	SP	N NP	2.5	თ	32	51	29	83	91	95	97		<u>ග</u>	100									6-0822-07
	SP	N NP	1.9	6	32	46	28	78	06	91	96		86	100									

Reviewed By:

Client: V File: V Supplier: V Distribution:

Other: Addressee (2)

AMEC Earth Environmental, Inc. 8519 Jefferson NE Albuquerque, NM 87113 Tel 5058211801 Fax 5058217371



Geomechanics Southwest Inc

416-B Menaul Blvd NW

Albuquerque, NM 87107-

Attn:

Branden L. Sanders

Project Name:

Albuquerque Levees

Albuquerque

Albuquerque, NM

Report Date: July 05, 2006

Project #: 6-519-004033

Report #: 372

Work Order #: 3

Sampled By: Client

Date Sampled:

Project Manager:

Herman Garcia

SOILS / AGGREGATES

- Toject managori	a L o Time of Motorial	Sample Source	Wet Weight (g)	Dry Weight (g)	Moisture (%)	Dry Density (pcf)
Lab #	Color & Type of Material		221.1	219.1	0.9%	
6-0822-01		8HSA-20 A 0' 8HSA-20 B 2.5'	311.7	305.1	2.2%	
6-0822-02		8HSA-20 C 5'	292.4	287.4	1.7%	
6-0822-03		8HSA-20 D 7.5'	315.4	309.6	1.9%	
6-0822-04		8HSA-20 E 10'	332.1	291.9	13.8%	
6-0822-05		8HSA-20 F 12:5'	36 8.6	309.6	19.1%	
6-0822-06		8HSA-20 G 15'	357.6	302.2	18.3%	
6-0822-07		8FISA-20 G 13				

Reviewed By: JR

Distribution: Client:

Fax 5058217371

Email:

File:

Supplier: • Other: Addressee (2)

AMEC Earth Environmental, Inc. 8519 Jefferson NE Albuquerque, NM 87113 Tel 5058211801



Report Date: July 10, 2006

Geomechanics Southwest Inc

Client:

Albuquerque, NM 87107-

Branden L. Sanders Albuquerque Levees

416-B Menaul Bivd NW

Project #: 6-519-004033

Work Order #: 4

Date Sampled:

Sampled By: Client

Sieve Analaysis (ASTM C117/C136)

Plasticity Index (ASTM D4318) Soil Classification (ASTM D2487)

Project Manager: Herman Garcia

Albuquerque, NM

Albuquerque

Project Name: Attention:

SOILS / AGGREGATES

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Lab Number	6-0823-01	6-0823-02	6-0823-03	6-0823-04	6-0823-05	6-0823-06	6-0823-07	6-0823-08	6-0823-09	6-0823-10	6-0823-11	6-0823-12
12"												
9												
÷5												
2 1/2"												
5												
1" 11/4" 11/2" 2" 21/2" 3"												
1.1									100			
3/4"							100	100	91	100		
1/2"							88	06	89	66		
3/8				100			88	88	68	94		
1/4"												
#4			100	66			85	81	85	83	100	100
8#			66	66			81	72	78	99	66	66
#10	100	100	66	98			80	69	9/	63	66	66
#16	66	66	66	98	100		75	61	99	20	66	66
#30	97	98	97	94	66	100	64	20	45	36	26	66
#40	93	94	93	89	98	66	51	41	28	28	92	98
#20	83	84	83	79	92	98	32	29	15	22	80	97
#100	51	49	49	42	58	80	7	10	5	4	47	93
#200	33	25	30	23	39	37	5.6	4.0	1.5	8.7	40	65
L.L. P.J. #2 <mark>00</mark> #100 #50 #40	N VN	N VN	N VP	NV NP	N NP	NV NP	N NP	NV NP	N VP	N VP	N VP	N NP
Soil Class.	SM	SM	SM	SM	SM	SM	SP-SM	SP	SP	SW-SM	SM	ML
Soil Sample Location Class.	8HSA-21 A 0'	8HSA-21 B 2.5'	8HSA-21 C 5'	8HSA-21 D 7.5'	8HSA-21 E 10'	8HSA-21 F 12.5'	8HSA-21 G 15'	8HSA-21 H 17.5	8HSA-21120'	8HSA-21 J 22.5'	8HSA-21 L 27.5	8HSA-21 M 30'

Reviewed By:

File: <u>Distribution:</u> Client: ♥ Email:

>

Other: Addressee (2) Supplier: 🗸

AMEC Earth Environmental, Inc.

8519 Jefferson NE Albuquerque, NM 87113 Tel 5058211801 Fax 5058217371



Geomechanics Southwest Inc

416-B Menaul Blvd NW

Albuquerque, NM 87107-

Attn:

Branden L. Sanders

Project Name:

Albuquerque Levees

Albuquerque

Albuquerque, NM

Project Manager:

Herman Garcia

Report Date: July 11, 2006

Project #: 6-519-004033

Report #: 376

Work Order #: 4

Sampled By: Client

Date Sampled:

SOILS / AGGREGATES

Lab #	Color & Type of Material	Sample Source	Wet Weight (g)	Dry Weight (g)	Moisture (%)	Dry Densi
6-0823-01		8HSA-21 A 0'	321.3	315.3	1.9%	,
6-0823-02		8HSA-21 B 2.5'	267.7	259.0	3.4%	
6-0823-03		8HSA-21 C 5'	331.4	316.1	4.8%	
6-0823-04		8HSA-21 D 7.5'	309.1	297.6	3.9%	
6-0823-05		8HSA-21 E 10'	284.6	260.1	9.4%	
6-0823-06		8HSA-21 F 12.5'	278.5	239.0	16.5%	
6-0823-07		8HSA-21 G 15'	221.9	190.9	16.2%	
6-0823-08		8HSA-21 H 17.5	299.8	257.4	16.5%	
6-0823-09		8HSA-21 20'	278.2	239.0	16.4%	
6-0823-10		8HSA-21 J 22.5'	293.1	252.8	15.9%	
6-0823-11		8HSA-21 L 27.5	186.0	144.4	28.8%	
6-0823-12		8HSA-21 M 30'	272.6	218.9	24.5%	

Reviewed By:

Distribution: Client: ✓

Email:

File:

Supplier: Other: Addressee (2)

AMEC Earth Environmental, Inc. 8519 Jefferson NE Albuquerque, NM 87113 Tel 5058211801

Fax 5058217371



Report Date: July 10, 2006

Geomechanics Southwest Inc

Client:

Albuquerque, NM 87107-

Albuquerque Levees Branden L. Sanders

Project Name: Attention:

Albuquerque, NM

Albuquerque

416-B Menaul Blvd NW

Project #: 6-519-004033

Sampled By: Client Work Order #: 5

Date Sampled:

Sieve Analaysis (ASTM C117/C136)

Plasticity Index (ASTM D4318)

Soil Classification (ASTM D2487)

Project Manager: Herman Garcia

SOILS / AGGREGATES

	Soil	- -		#200 #100	#20	#40	#30	#16	#10#	8#	#4	1/4" 3/	3/8" 1/	112" 314	-	3/4' 1" 11/4"11/2" 2" 21/2" 3"	1 1/2"	2" 21	2" 3"	 12"	Lab Number
Sample Location	Class.	111111111111111111111111111111111111111				+	1		1	T	1			100							6-0824-01
8HSA-23 A 0'	SM	N NP	27	43	69	75	78	2	82	8.7	82	~	60	25	5						
8HSA-23 B 2.5'	SM	NV NP	29	48	84	92	95	16	86	86	66	_	001								6-0824-02
8HSA-23 C 5'	SM	NV NP	15	29	62	9/	84	91	94	95	26		99 1(100							6-0824-03
8HSA-23 D 7.5'	SP-SM	NV NP	7.4	19	48	62	72	80	83	84	87		89	06 06	06 (100				6-0824-04
8HSA-23 E 10'	SM	N NP	13	27	61	75	84	91	94	35	26		99 1(100							6-0824-05
8HSA-23 F 12.5'	SM	NV NP	14	37	73	85	91	96	26	26	98		38	98 100	0						6-0824-06
8HSA-23 G 15	SP	N NP	3.1	6	43	73	88	26	86	66	100										6-0824-07
8HSA-23 H 17.5'	SP	N NP	3.6	13	44	59	71	85	16	92	26		1 66	100							6-0824-08
8HSA-23 I 20'	SP	N VP	2.0	15	56	69	78	87	91	95	96		66	99 1(100						6-0824-09
8HSA-23 J 22.5'	SP	NV NP	2.5	က	10	20	44	92	82	87	93		3 26	98 1(100						6-0824-10
8HSA-23 K 25'	SP	N NP	0.3	4	30	48	64	83	88	68	92		94	94 1(100						6-0824-11
8HSA-23 M 30'	SP	N NP	9.0	က	20	36	55	85	92	96	66		99 1	100							6-0824-12

Reviewed By:

<u>Distribution:</u> Client: ☑ Email:

File:

Supplier:

Other: Addressee (2)

AMEC Earth .Environmental, Inc. 8519 Jefferson NE Albuquerque, NM 87113 Tel 5058211801 Fax 5058217371



Geomechanics Southwest Inc

416-B Menaul Blvd NW

Albuquerque, NM 87107-

Attn:

Branden L. Sanders

Project Name:

Albuquerque Levees

Albuquerque Albuquerque, NM

Project Manager:

Herman Garcia

Report Date: July 11, 2006

Project #: 6-519-004033

Report #: 377

Work Order #: 5

Sampled By: Client

Date Sampled:

SOILS / AGGREGATES

Lab#	Color & Type of Material	Sample Source	Wet Weight (g)	Dry Weight (g)	Moisture (%)	Dry Density (pcf)
		8HSA-23 A 0'	300.0	295.4	1.6%	
6-0824-01		8HSA-23 B 2.5'	300.0	280.2	7.1%	
6-0824-02		8HSA-23 C 5'	300.0	291.9	2.8%	
6-0824-03		8HSA-23 D 7.5'	300.0	294.1	2.0%	
6-0824-04		8HSA-23 E 10'	250.0	244.9	2.1%	
6-0824-05		8HSA-23 F 12.5'	300.0	286.1	4.9%	
6-0824-06		8HSA-23 G 15'	300.0	291.7	2.8%	
6-0824-07		8HSA-23 H 17.5'	400.0	333.7	19.9%	
6-0824-08		8HSA-23 I 20'	300.0	252.7	18.7%	
6-0824-09			300.0	258.1	16.2%	
6-0824-10		8HSA-23 J 22.5'	300.0	261.5	14.7%	
6-0824-11		8HSA-23 K 25'		257.0	16.7%	
6-0824-12		8HSA-23 M 30'	300.0	257.0	10.770	

Reviewed By:____

Distribution: Client:

Email:

File:

Supplier: 🗹

Other: Addressee (2)

AMEC Earth Environmental, Inc. 8519 Jefferson NE

Albuquerque, NM 87113 Tel 5058211801 Fax 5058217371



Report Date: July 10, 2006

Geomechanics Southwest Inc

Client:

416-B Menaul Blvd NW

Albuquerque, NM 87107-

Albuquerque Levees Branden L. Sanders

> Project Name: Attention:

Albuquerque, NM

Albuquerque

Project Manager: Herman Garcia

Project #: 6-519-004033

Work Order #: 6

Sampled By: Client

Date Sampled:

Sieve Analaysis (ASTM C117/C136) Plasticity Index (ASTM D4318) Soil Classification (ASTM D2487)

SOILS / AGGREGATES

Soil Sample Location Class.		L.L. P.J. #200 #100 #50	#200	#100	#20	#40	#30	#16	#10	8#	#4	1/4" 3/8"		: ::211	3/4.	1/2" 3/4' 1" 1 1/4" 1 1/2" 2" 2 1/2" 3"	" 1 1/2"	5	2 1/2"	 9	12"	Lab Number
8HSA-25 A 0'	SM	N NP	23	38	79	90	96	98	86	66	66		<u>0</u>									6-0825-01
8HSA-25 B 2.5'	SM	N N N	30	52	84	93	97	66	66	66	100											6-0825-02
8HSA-25 C 5'	SM	NV NP	49	68	87	92	92	96	26	26	97		26	26	100							6-0825-03
8HSA-25 D 7.5'	ML	N VN	55	75	93	96	98	66	66	66	100											6-0825-04
8HSA-25 E 10'	ML	N NP	59	85	96	86	66	66	66	66	66		100									6-0825-05
8HSA-25 F 12.5'	ML	N NP	53	78	95	98	66	66	100													6-0825-06
8HSA-25 G 15'	SP	NV NP	3.8	33	86	93	97	66	100													6-0825-07
8HSA-25 H 17.5'	SP	N NP	0.6	ო	16	31	47	71	80	81	87		90	91	91	100						6-0825-08
8HSA-25 J 22.5'	SP	N N N	3.3	5	13	22	30	42	52	55	71		87	92	95	100						6-0825-09
8HSA-25 K 25'	SP	NV NP	7.	4	10	16	24	41	58	62	80		92	96	100							6-0825-10
8HSA-25 L 27.5'	SP	NV NP	2.5	∞	26	35	45	99	83	85	93		98	86	100							6-0825-11
8HSA-25 M 30'	SP-SM	N NP	6.4	7	53	67	73	82	87	87	92		93	95	100							6-0825-12

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Other: Addressee (2)

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Geomechanics Southwest Inc

416-B Menaul Blvd NW Albuquerque, NM 87107-

Attn:

Branden L. Sanders

Project Name:

Albuquerque Levees

Albuquerque Albuquerque, NM

Project Manager: Herman Garcia Report Date: July 11, 2006

Project #: 6-519-004033

Report #: 378

Work Order #: 6

Sampled By: Client

Date Sampled:

SOILS / AGGREGATES

			Wet Weight	Dry Weight	Moisture	Dry Densit
Lab#	Color & Type of Material	Sample Source	(g)	(g)	(%)	(pcf)
6-0825-01		8HSA-25 A 0'	260.9	251.8	3.6%	
6-0825-02		8HSA-25 B 2.5'	267.0	255.0	4.7%	
6-0825-03		8HSA-25 C 5'	260.0	236.6	9.9%	
6-0825-04		8HSA-25 D 7.5'	260.0	236.8	9.8%	
6-0825-05		8HSA-25 E 10'	260.0	230.6	12.7%	
6-0825-06		8HSA-25 F 12.5'	260.1	212.3	22.5%	
6-0825-07		8HSA-25 G 15'	260.0	210.6	23.5%	
6-0825-08		8HSA-25 H 17.5'	300.0	261.5	14.7%	
6-0825-09		8HSA-25 J 22.5'	300.0	263.2	14.0%	
6-0825-10		8HSA-25 K 25'	250.0	218.9	14.2%	
6-0825-11		8HSA-25 L 27.5'	300.0	261.3	14.8%	
6-0825-12		8HSA-25 M 30'	285.0	242.4	17.6 <mark>%</mark>	

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Distribution: Client: ✓

Email:

File: Supplier: Other: Addressee (2)

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Tel 5058211801 Fax 5058217371

amec

Report Date: July 10, 2006

Geomechanics Southwest Inc

Client:

Albuquerque, NM 87107-416-B Menaul Blvd NW

Alhuquerque Levees Branden L. Sanders

Project Name: Attention:

Albuquerque, NM

Albuquerque

Project Manager: Herman Garcia

Project #: 0-519-004033

Work Order #: 7

Sampled By: Clinet

Date Sampled:

Sieve Analaysis (ASTM C117/C136) Plasticity Index (ASTM D4318)

Soil Classification (ASTM D2487)

SOILS / AGGREGATES

Soil Soil #100 #100 #50	Soil	- -	#200	#100	#50	#40	#30 #	#16	#10	88	#4 1/4	4" 3/8'	112	3/4,	-	Lab 1/4" 3/8" 1/2" 3/4' 1" 11/4"11/2" 2" 21/2" 3" 6" 12" Number	. 2	2 1/2"	 3	÷9	12"	Lab Number
Sample Location	Class.	h. h. i . i.					ı															E 0826 01
8HSA-26 A 0.	SM	NV NP	39	62	98	92	98	26	86	98	66	100	C									0-070-0
8HCA_26 B 2 5'	MS-CS	21 5	45	74	95	98	66	100														6-0826-02
5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5			. 2	, u	Ö	9	45	66	66	66	66	100	c									6-0826-03
8HSA-26 C 5	IM O	L	5	3	2		; ;) 			7	2	700	c								6-0826-04
8HSA-26 D 7.5'	SP	N NP	2.9	თ	26	4	22	11	/8	500	76	n n		2								50 9000
8HSA-26 E 10'	SP	NV NP	0.8	4	23	40	61	98	93	95	66	100	0									0-0700-0
8HSA-26 F 12.5'	SW-SM	N VP	9.9	13	37	51	62	74	80	82	87	9	1 94	4 100	_							6-0826-05
8HSA-26 G 15'	SP	NV NP	2.4	က	9	7	10	22	43	51	83	95	5 97	7 100	C							6-0826-07

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Other: Addressee (2)

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8519 Jefferson NE Albuquerque, NM 87113 Tel 5058211801 Fax 5058217371



Geomechanics Southwest Inc

416-B Menaul Blvd NW

Albuquerque, NM 87107-

Attn:

Branden L. Sanders

Project Name:

Albuquerque Levees

Albuquerque Albuquerque, NM

Project Manager:

Herman Garcia

Report Date: July 11, 2006

Project #: 6-519-004033

Report #: 379

Work Order #: 7

Sampled By: Clinet

Date Sampled:

SOILS / AGGREGATES

1 4 4	Color 9 Tune of Material	Sample Source	Wet Weight	Dry Weight	Moisture	Dry Density
Lab #	Color & Type of Material	Sample Source	(g)	(g)	(%)	(pcf)
6-0826-01		8HSA-26 A 0'	300.0	294.0	2.0%	
6-0826-02		8HSA-26 B 2.5'	300.0	247.3	21.3%	
6-0826-03		8HSA-26 C 5'	300.0	241.9	24.0%	
6-0826-04		8HSA-26 D 7.5'	300.0	256.6	16.9%	
6-0826-05		8HSA-26 E 10'	250.0	206.7	20.9%	
6-0826-06		8HSA-26 F 12.5'	300.0	252.6	18.8%	
6-0826-07		8HSA-26 G 15'	300.0	290.5	3.3%	

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Tel 5058211801 Fax 5058217371



Report Date: July 11, 2006

Geomechanics Southwest Inc

Client:

Albuquerque, NM 87107-

Albuquerque Levees Branden L. Sanders

Project Name: Attention:

Albuquerque, NM

Albuquerque

Project Manager: Herman Garcia

416-B Menaul Blvd NW

Project #: 6-519-004033

Work Order #: 8

Sampled By: Client

Date Sampled:

Sieve Analaysis (ASTM C117/C136) Plasticity Index (ASTM D4318) Soil Classification (ASTM D2487) SOILS / AGGREGATES

Lab	6-0827-01	6-0827-02	6-0827-03	6-0827-04	6-0827-05	90-224-09
12"						
9						
۳.						
2 1/2"						
17						
1/2" 3/4' 1" 11/4"11/2" 2" 21/2" 3" 6" 12"						
-			100			100
3/4"	100		06			96
1/2"	86		98	100	100	82
3/8"	98	100	82	86	66	79
1/4						
#	95	97	77	96	96	73
8#	92	93	29	93	8	29
#10	91	95	65	92	87	64
#16	98	84	54	84	72	20
#30	7.1	62	32	26	33	20
#40	55	47	19	36	16	თ
#50	36	35	10 19	19	œ	2
#100	13	15	4	ო		0.7 1
#200	7.0	9.7 15	2.0 4	0.3	0.5	0.7
L.L. P.I.	SP-SM NV NP 7.0 13 36 55	SW-SM NV NP	NV NP	N NP	N NP	N NP
Soil Class.	SP-SM	SW-SM	SP	SP	SP	SP
Soil Sample Location Class. L.L. P.I. #2 <mark>0</mark> 0 #100 #50 # <mark>40</mark> #30	8HSA-27 B 2.5'	8HSA-27 C 5'	8HSA-27 D 7.5'	8HSA-27 E 10'	8HSA-27 F 12.5'	8HSA-27 G 15'

Reviewed By:

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Supplier:

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Geomechanics Southwest Inc

416-B Menaul Blvd NW

Albuquerque, NM 87107-

Attn:

Branden L. Sanders

Project Name:

Albuquerque Levees

Albuquerque Albuquerque, NM Report Date: July 11, 2006

Project #: 6-519-004033

Report #: 380

Work Order #: 8

Sampled By: Client

Date Sampled:

Project Manager: Herman Garcia

SOILS / AGGREGATES

Lab#	Color & Type of Material	Sample Source	Wet Weight (g)	Dry Weight (g)	Moisture (%)	Dry Density (pcf)
6-0827-01		8HSA-27 B 2.5'	300.0	294.0	2.0%	
6-0827-02		8HSA-27 C 5'	300.0	253.9	18.2%	
6-0827-03		8HSA-27 D 7.5'	300.0	279.8	7.2%	
6-0827-04		8HSA-27 E 10'	300.0	159.5	88.1%	
6-0827-05		8HSA-27 F 12.5'	300.0	252.8	18.7%	
6-0827-06		8HSA-27 G 15'	300.0	268.0	11.9%	

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Report Date: July 11, 2006

Geomechanics Southwest Inc

Client:

Albuquerque, NM 87107-416-B Menaul Blvd NW

Albuquerque Levees Branden L. Sanders

> Project Name: Attention:

Albuquerque, NM

Albuquerque

Project #: 6-519-004033

Work Order #: 11

Sampled By: Client

Date Sampled:

Sieve Analaysis (ASTM C117/C136) Plasticity Index (ASTM D4318) Soil Classification (ASTM D2487)

> SOILS / AGGREGATES Project Manager: Herman Garcia

																							Lab
option I classica	Soil	. P.L	#200	#200 #100	#20	#40	#30	#16	#10	8#	#	1/4"	3/8" 1		3/4'	-	1/4" 3/8" 1/2" 3/4' 1" 11/4" 11/2" 2" 21/2" 3"	2".	1/2"	- 1	6" 12"	- 1	Number
Sample Location	Class.		-	1	1	ŀ	0	g	g	g	g		90									ဖ်	6-0830-01
8HSA-28 A 0'	SM	N N	9	27	ĝ		ò	9	9	9)											ċ	6-0830-02
8HSA-28 B 2.5'	SM	N NP	25	39	70	83	91	96	86	86	6 6		100									ט נ	6-0830-03
8HSA-28 C 5'	SM	N NP	39	49	9/	89	92	86	66	66	100											ė d	6-0830-04
8HSA-28 D 7.5'	ML	NV NP	20	28	9/	83	83	92	97	97	98			9								o «c	6-0830-05
8HSA-28 E 10'	ML	NV NP	57	64	80	85	90	92	26	86	66		9									, (c	6-0830-06
8HSA-28 F 12.5'	占	27 8	90	93	97	98	66	66	100													o (C	6-0830-07
8HSA-28 G 15'	SM	NV NP	15	24	55	83	94	66	100														6-0830-08
8HSA-28 H 17.5'	SP-SM	N NP	7	32	65	80	93	97	86	86	86		66	66	9							, α	6-0830-09
8HSA-28 I 20'	SP	N NP	1.7	7	45	89	82	92	93	93	94		94	94	94	9						, u	6.0830-10
8HSA-28.122.5;	SP	N VN	4.0	2	10	22	35	26	65	49	74		85	92	100							, ,	0-0000
8HSA-28 K 25'	S	N VN	2.6	4	10	15	22	35	43	46	26		65	89	82	98	100						0-0000-11
8HSA-28 L 27.5'	S	NV NP	1.6	₍₂	7	12	18	31	42	45	22		99	11	74	82	100						0-0030-12 6 0830-13
8HSA-28 M 30'	SP	N VP	0.5	.c	14	. 59	46	74	88	06	97		66	100								5	61-000-0

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Albuquerque, NM 87113 Tel 5058211801 Fax 5058217371



Geomechanics Southwest Inc

416-B Menaul Blvd NW

Albuquerque, NM 87107-

Attn:

Branden L. Sanders

Project Name:

Albuquerque Levees

Albuquerque Albuquerque, NM Report Date: July 11, 2006

Project #: 6-519-004033

Report #: 381

Work Order #: 11 Sampled By: Client

Date Sampled:

Project Manager: Herman Garcia

SOILS / AGGREGATES

Lab#	Color & Type of Material	Sample Source	Wet Weight (g)	Dry Weight (g)	Moisture (%)	Dry Density (pcf)
6-0830-01		8HSA-28 A 0'	300.0	297.8	0.7%	
6-0830-02		8HSA-28 B 2.5'	300.0	289.5	3.6%	
6-0830-03		8HSA-28 C 5'	300.0	279.2	7.4%	
6-0830-04		8HSA-28 D 7.5'	300.0	269.7	11.2%	
6-0830-05		8HSA-28 E 10'	300.0	267.9	12.0%	
6-0830-06		8HSA-28 F 12.5'	300.0	209.9	42.9%	
6-0830-07		8HSA-28 G 15'	300.0	246.5	21.7%	
6-0830-08		8HSA-28 H 17.5'	300.0	243.5	23.2%	
6-0830-09		8HSA-28 i 20'	300.0	256.3	17.1%	
6-0830-10		8HSA-28 J 22.5'	300.0	264.7	13.3%	
6-0830-11		8HSA-28 K 25'	300.0	278.6	7.7%	
6-0830-12		8HSA-28 L 27.5'	300.0	281.7	6.5%	
6-0830-13		8HSA-28 M 30'	300.0	259.6	15.6%	

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File: Supplier: Other: Addressee (2)

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Fax 5058217371

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Report Date: July 10, 2006

Geomechanics Southwest Inc

Client:

Albuquerque, NM 87107-

Albuquerque Levees Branden L. Sanders

Project Name: Attention:

Albuquerque, NM

Albuquerque

416-B Menaul Blvd NW

Project #: 6-519-004033

Sampled By: Client Work Order #: 9

Date Sampled:

Sieve Analaysis (ASTM C117/C136) Plasticity Index (ASTM D4318)

Soil Classification (ASTM D2487)

SOILS / AGGREGATES Project Manager: Herman Garcia

																					4	Lab
Soil Sample Location Class. L.L. P.I. #200 #100 #50	Soil Class.	L.L. P.I.	#200	#100	#20	#40	#30	#30 #16 #10 #8	#10	8#	#4	1/4" 3/8	3".	2" 3	7-	11/4"	1 1/2"	5	2 1/2"	3.	 12	1/4" 3/8" 1/2" 3/4' 1" 11/4"11/2" 2" 21/2" 3" 6" 12" Number
10 4 00 40110	No Jo	21 4	30	4	7.	83	8	90 95	97	97	98	6	99	100								6-0828-01
0 Y 67-YCU0		. !			ć	Ç	5															6-0828-02
8HSA-29 B 2.5'	ML	N N	78	Š	n n	n n	3															6-0828-03
8HSA-29 C 5'	づ	27 15	74	79	90	95	26	66	66	66	100											K 0828.04
8HSA-29 D 7.5'	SP-SM	NV NP	6.7	16	49	64	74	85	90	91	96	0,	99	18								0-0200-0
8HSA-29 E 10'	SP	N VN	4.3	თ	37	53	99	83	91	93	97	7-	100									6-8280-9
8HSA-29 F 12.5'	SP	N NP	2.7	9	25	46	65	83	87	88	90	0,	95	95 1	100							0-020-00
8HSA-29 G 15'	SP	NV NP	0.3	-	œ	17	33	64	81	83	94	0,	86	98	100							0-0700-0

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Client: 🗹 Email: 📋 Distribution:

File:

Other: Addressee (2)

Supplier: V

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Albuquerque, NM 87113
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Geomechanics Southwest Inc

416-B Menaul Blvd NW

Albuquerque, NM 87107-

Attn:

Branden L. Sanders

Project Name:

Albuquerque Levees

Albuquerque

Albuquerque, NM

Project Manager: Herman Garcia

Report Date: July 11, 2006

Project #: 6-519-004033

Report #: 387

Work Order #: 9

Sampled By: Client

Date Sampled:

SOILS / AGGREGATES

1 - lo #	Color & Type of Material	Sample Source	Wet Weight (g)	Dry Weight (g)	Moisture (%)	Dry Density (pcf)
Lab #	Color & Type or manner	8HSA-29 A 0'	200.0	185.0	8.1%	
6-0828-01		8HSA-29 B 2.5'	300.0	253.7	18.2%	
6-0828-02			300.0	228.8	31.1%	
6-0828-03		8HSA-29 C 5'	300.0	255.6	17.4%	
6-0828-04		8HSA-29 D 7.5'	300.0	257.9	16.3%	
6-0828-05		8HSA-29 E 10'	300.0	258.2	16.2%	
6-0828-06		8HSA-29 F 12.5'		266.7	12.5%	
6-0828-07		8HSA-29 G 15'	300.0	200.7	12.070	

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Other: Addressee (2)

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Fax 5058217371

amec Report Date: July 13, 2006

Geomechanics Southwest Inc

Client:

Albuquerque, NM 87107-416-B Menaul Blvd NW

Albuquerque Levees Branden L. Sanders

Project Name:

Attention:

Albuquerque, NM

Albuquerque

Project #: 6-519-004033

Work Order #: 10

Sampled By: Client Date Sampled:

Sieve Analaysis (ASTM C117/C136) Plasticity Index (ASTM D4318)

Soil Classification (ASTM D2487)

SOILS / AGGREGATES Project Manager: Herman Garcia

Lab Number	6-0829-01	6-0829-02	6-0829-03	6-0829-04	6-0829-05	6-0829-06	6-0829-07	6-0829-08	6-0828-09	6-0829-10	6-0829-11
12"											
.9											
3/4' 1" 11/4"11/2" 2" 21/2" 3"											
5"											
1/2"											
1/4" 1											
<u>+</u>									100	100	
3/4	100							100	93	92	100
1/2"	92			100			100	88	93	92	66
1/4" 3/8"	95			66	100		66	84	89	95	96
1/4"											
#4	06	100	100	86	66		98	74	82	85	92
8#	88	66	66	96	66		96	65	71	79	82
#10	88	66	66	96	66	100	96	62	69	77	83
#16	88	86	86	94	26	26	92	50	25	20	75
#30	87	94	95	87	92	91	9/	29	38	52	22
#40	85	88	88	79	85	11	62	21	30	42	36
#20	78	9/	9/	65	73	27	44	15	23	26	21
#100	47	40	4	23	4	2	13	4	10	7	12
#200	30	25	20	8.0	27	2.5	2.8	1.9	3.6	1.2	8.5
L.L. P.I. #200 #100	N NP	NV NP	NV NP	NV NP	NV NP	N NP	NV NP	NV NP	NV NP	N NP	NV NP
Soil Class.	SM	SM	SM	SP-SM	SM	SP	SP	SP	SP	SP	SW-SM
Soil Sample Location Class.	8HSA-30 A 0'	8HSA-30 B 2.5'	8HSA-30 C 5'	8HSA-30 D 7.5'	8HSA-30 E 10'	8HSA-30 F 12.5'	8HSA-30 G 15'	8HSA-30 H 17.5'	8HSA-30 J 22.5'	8HSA-30 L 27.5'	8HSA-30 M 30'

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AMEC Earth _Environmental, Inc.

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Albuquerque, NM 87113 Tel 5058211801 Fax 5058217371



Geomechanics Southwest Inc

416-B Menaul Blvd NW Albuquerque, NM 87107-

Attn:

Branden L. Sanders

Project Name:

Albuquerque Levees

Albuquerque Albuquerque, NM Report Date: July 13, 2006

Project #: 6-519-004033

Report #: 393 Work Order #: 10

Sampled By: Client

Date Sampled:

Project Manager: Herman Garcia

SOILS / AGGREGATES

Lab #	Color & Type of Material	Sample Source	Wet Weight (g)	Dry Weight (g)	Moisture (%)	Dry Density (pcf)
6-0829-01		8HSA-30 A 0'	300.0	290.9	3.1%	(1-0.7
6-0829-02		8HSA-30 B 2.5'	300.0	288.0	4.2%	
6-0829 - 03		8HSA-30 C 5'	214.1	207.4	3.2%	
6-0829 - 04		8HSA-30 D 7.5'	300.0	293.5	2.2%	
6-0829-05		8HSA-30 E 10'	300.0	269.8	11.2%	
3-0829-06		8HSA-30 F 12.5'	300.0	271.9	10.3%	
6-0829-07		8HSA-30 G 15'	300.0	253.3	18.4%	
6-0829-08		8HSA-30 H 17.5'	300.0	270.4	10.4%	
6-0829-09		8HSA-30 J 22.5'	300.0	262.0	14.5%	
3-0829-10		8HSA-30 L 27.5'	189.0	161.6	17.0%	
5-0829-11		8HSA-30 M 30'	300.0	257.0	16.7%	

Reviewed By:

<u>Distribution:</u> Client: ✓

Email:

File:

Supplier:

Other: Addressee (2)

AMEC Earth Environmental, Inc. 8519 Jefferson NE Albuquerque, NM 87113

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amec

Report Date: July 17, 2006

Geomechanics Southwest Inc

Client:

Albuquerque, NM 87107-416-B Menaul Blvd NW

Albuquerque Levees

Project Name:

Attention:

Albuquerque, NM

Albuquerque

Branden L. Sanders

Project #: 6-519-004033

Work Order #: 18

Sampled By: Client Date Sampled: Sieve Analaysis (ASTM C117/C136) Plasticity Index (ASTM D4318)

Soil Classification (ASTM D2487)

SOILS / AGGREGATES

Project Manager: Herman Garcia

6-0837-02 6-0837-03 6-0837-04 6-0837-05 6-0837-06 6-0837-01 Number 12" <u>.</u>9 3 2 1/2" 5 1" 11/4" 11/2" 3/4 100 9 100 1/2... 9 86 96 85 3/8" 86 8 82 97 1/4" # 66 92 74 95 97 95 8# 98 65 88 87 #10 98 88 63 86 8 #16 74 89 53 #30 43 20 34 25 52 20 #200 #100 #50 5 30 10 6.0 2.0 L.L. P.I. NV NP NV NP NV NP N NP N NP N NP SP-SM Soil Class. SM SP SP SP SP Sample Location 8HSA-31 F 12.5' 8HSA-31 D 7.5' 8HSA-31 B 2.5' 8HSA-31 G 15' 8HSA-31 C 5' 8HSA-31 A 0'

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Supplier:

Other: Addressee (2)

AMEC Earth _Environmental, Inc. 8519 Jefferson NE

Albuquerque, NM 87113 Tel 5058211801 Fax 5058217371



Geomechanics Southwest Inc

416-B Menaul Blvd NW Albuquerque, NM 87107-

Attn:

Branden L. Sanders

Project Name:

Albuquerque Levees

Albuquerque Albuquerque, NM Report Date: July 18, 2006

Project #: 6-519-004033

Report #: 395

Work Order #: 18 Sampled By: Client

Date Sampled:

Project Manager: Herman Garcia

SOILS / AGGREGATES

Lab #	Color & Type of Material	Sample Source	Wet Weight (g)	Dry Weight (g)	Moisture (%)	Dry Density (pcf)
6-0837-01		8HSA-31 A 0'	369.1	362.0	2.0%	
6-0837-02		8HSA-31 B 2.5'	342.1	313.9	9.0%	
6-0837-03		8HSA-31 C 5'	307.5	258.6	18.9%	
6-0837-04		8HSA-31 D 7.5'	238.2	211.5	12.6%	
6-0837-05		8HSA-31 F 12.5'	284.1	240.7	18.0%	
6-0837-06		8HSA-31 G 15'	239.5	199.6	20.0%	

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Fax 5058217371



Report Date: July 11, 2006

Geomechanics Southwest Inc

Client:

416-B Menaul Blvd NW

Albuquerque, NM 87107-

Albuquerque Levees Branden L. Sanders

> Project Name: Attention:

Albuquerque, NM

Albuquerque

Project #: 6-519-004033

Work Order #: 19

Sampled By: Client

Date Sampled:

Plasticity Index (ASTM D4318) Soil Classification (ASTM D2487)

Sieve Analaysis (ASTM C117/C136)

Project Manager: Herman Garcia

SOILS / AGGREGATES

	Soil									Ş		14" 210"		12	314,	:	4" 1114" 1112" 2" 2112"	2	2 1/2"	÷	.9	12"	Lab Number
Sample Location Class. L.L. P.I. #200 #100	Class.	L.L. P.I.	#200	#100	#20	#40	#30	<u>4</u> 1ه	PL#	9#	1	1	- 1	- 1		1		1					0000000
8HSA-32 A 0.	SM	NV NP	23	40	61	7.1	78	85	88	88	93		86	100									10-0000-0
8HSA-32 B 2.5'	SP-SM	NV NP	9	22	56	75	98	94	96	26	98		100										6-0838-02
8HSA-32 C 5'	SM	NV NP	21	44	77	89	95	86	66	66	100												0-000-00
8HSA-32 D 7.5'	SM	N VP	13	34	70	82	88	95	96	97	98		66	66	100								0-0000-04
8HSA-32 E 10'	SM	NV NP	34	51	78	85	88	92	94	94	26		66	100									60-0000-0
8HSA-32 F 12.5'	SP-SM	N VP	9.4	36	90	66	100																6.0838-07
8HSA-32 G 15'	SP	N N	1.5	12	54	83	96	66	66	66	66		66	100									6-0838-08
8HSA-32 H 17.5'	SP	NV NP	2.3	3 16	9/	92	86	100															00 8680 9
8HSA-32 I 20'	SM	N NP	13	26	7.1	85	91	92	96	96	97		86	100									6.0030-03
8HSA-32 J 22.5'	ರ	48 31	86	89	94	1 97	98	66	100														00000
8HSA-32 K 25'	ರ	31 17	58	64	77	84	88	94	97	86	66		100										0-0000-11
8HSA-32 L 27.5'	SP	N ∨N	3.9	9 12	49	69 6	9 82	93	96	96	26		66	66	100								6.0838-13
8HSA-32 M 30'	SP	N VN	2.6	ω	46	5 74	06	98	66	66	66		66	100									

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Albuquerque, NM 87113
Tel 5058211801
Fax 5058217371



Geomechanics Southwest Inc

416-B Menaul Blvd NW Albuquerque, NM 87107-

Attn:

Branden L. Sanders

Project Name:

Project Manager:

Albuquerque Levees

Albuquerque Albuquerque, NM

Herman Garcia

SOILS / AGGREGATES

Report Date: July 11, 2006

Project #: 6-519-004033

Report #: 389

Work Order #: 19 Sampled By: Client

Date Sampled:

Color & Type of Material	Sample Source	Wet Weight (g)	Dry Weight (g)	Moisture (%)	Dry Density (pcf)
	8HSA-32 A 0'	315.4	302.5	4.3%	
	8HSA-32 B 2.5'	309.8	300.5	3.1%	
	8HSA-32 C 5'	350.7	328.7	6.7%	
	8HSA-32 D 7.5'	359.6	340.9	5.5%	
	8HSA-32 E 10'	316.7	271.1	16.8%	
	8HSA-32 F 12.5'	356.0	305.2	16.6%	
	8HSA-32 G 15'	326.4	268.0	21.8%	
	8HSA-32 H 17.5'	308.6	251.1	22.9%	
		341.4	298.0	14.6%	
	******	332.9	247.4	34.6%	
		292.0	205.3	42.2%	
		345.7	292.6	18.1%	
		264.3	222.8	18. <mark>6%</mark>	
	Color & Type of Material	8HSA-32 A 0' 8HSA-32 B 2.5' 8HSA-32 C 5' 8HSA-32 D 7.5' 8HSA-32 E 10' 8HSA-32 F 12.5'	Color & Type of Material Sample Source (g) 8HSA-32 A 0' 315.4 8HSA-32 B 2.5' 309.8 8HSA-32 C 5' 350.7 8HSA-32 D 7.5' 359.6 8HSA-32 E 10' 316.7 8HSA-32 F 12.5' 356.0 8HSA-32 G 15' 326.4 8HSA-32 H 17.5' 308.6 8HSA-32 I 20' 341.4 8HSA-32 J 22.5' 332.9 8HSA-32 K 25' 292.0 8HSA-32 L 27.5' 345.7	Color & Type of Material Sample Source (g) (g) 8HSA-32 A 0' 315.4 302.5 8HSA-32 B 2.5' 309.8 300.5 8HSA-32 C 5' 350.7 328.7 8HSA-32 D 7.5' 359.6 340.9 8HSA-32 E 10' 316.7 271.1 8HSA-32 F 12.5' 356.0 305.2 8HSA-32 G 15' 326.4 268.0 8HSA-32 H 17.5' 308.6 251.1 8HSA-32 I 20' 341.4 298.0 8HSA-32 J 22.5' 332.9 247.4 8HSA-32 K 25' 292.0 205.3 8HSA-32 L 27.5' 345.7 292.6	Color & Type of Material Sample Source (g) (g) (%) 8HSA-32 A 0' 315.4 302.5 4.3% 8HSA-32 B 2.5' 309.8 300.5 3.1% 8HSA-32 C 5' 350.7 328.7 6.7% 8HSA-32 D 7.5' 359.6 340.9 5.5% 8HSA-32 E 10' 316.7 271.1 16.8% 8HSA-32 F 12.5' 356.0 305.2 16.6% 8HSA-32 G 15' 326.4 268.0 21.8% 8HSA-32 H 17.5' 308.6 251.1 22.9% 8HSA-32 J 20' 341.4 298.0 14.6% 8HSA-32 J 22.5' 332.9 247.4 34.6% 8HSA-32 L 27.5' 345.7 292.6 18.1%

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Albuquerque, NM 87113 Tel 5058211801 Fax 5058217371



July 11, 2006

Geomechanics Southwest, Inc. 416-B Menaul Blvd , NW Albuquerque, NM 87107

AMEC Job No.: 6-519-004033

Lab #6-0839

Attn:

Branden L. Sanders

Project:

Albuquerque Levees

Re:

Results of Lab Testing (8HSA-33) Performed by AMEC.

Manager of Technical Services

Copies: Addressee (2)



Report Date: July 10, 2006

Geomechanics Southwest Inc

Client:

Albuquerque, NM 87107-416-B Menaul Blvd NW

Albuquerque Levees Branden L. Sanders

> Project Name: Attention:

Albuquerque, NM

Albuquerque

Project #: 6-519-004033

Work Order #: 20

Sampled By: Client Date Sampled: Sieve Analaysis (ASTM C117/C136) Plasticity Index (ASTM D4318)

Soil Classification (ASTM D2487)

Project Manager: Herman Garcia

SOILS / AGGREGATES

	:																	-		-		6" 12"	Lab
Soil Sample Location Class.		L.L. P.I. #200 #100 #50	#200	#100	#20	#40	#30	#16	#10	8#	#4	1/4"	1/4" 3/8"	1/2"	3/4'		1/2" 3/4' 1" 11/4" 11/2" 2 2 112	1	7 7	,	,	2	6 0839-01
8HSA-33 A 0'	Ĭ N	N VN	50	79	89	92	95	98	66	66	66		100										6 0830-07
8HSA-33 B 2.5'	SM	N V V	36	54	73	8	06	26	86	86	66		100										6-0839-03
8HSA-33 C 5'	SP-SM	NV NP	12	27	99	82	90	96	86	86	66		100										6-0839-04
8HSA-33 D 7:5'	SP-SM	NV NP	10.0	25	29	81	90	95	96	26	97		86	86	100								6-0839-05
8HSA-33 E 10'	SP	NV NP	4.0	26	85	95	66	100															90-6230-9
8HSA-33 F 12.5'	SP	NV NP	2.9	13	63	86	97	100															6-0839-07
8HSA-33 G 15'	SP	NV VP	3.8	14	44	99	82	91	92	96	86		6 6	100									6-0839-08
8HSA-33 H 17.5	SP	N VN	4.1	7	27	4	9	83	88	88	06		91	91	91	100							90-9290-9
8HSA-33 I 20'	SP	N VP	1.6	4	15	25	4	29	77	8	88		94	26	100		Š						6-0839-10
8HSA-33 J 22 5'	СР	NV NP	0.8	-	က	9	12	23	31	34	47		09	65	88 !	93	100						6-0839-11
8HSA-33 K 25'	GW	NV NP	0.9	2	4	ω	<u>5</u>	22	29	32	46		62	7.5	``	901							

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8HSA-33 K 25'

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Albuquerque, NM 87113 Tel 5058211801 Fax 5058217371



Geomechanics Southwest Inc

416-B Menaul Blvd NW Albuquerque, NM 87107-

Attn:

Branden L. Sanders

Project Name:

Albuquerque Levees

Albuquerque Albuquerque, NM

Project Manager: Herman Garcia

Report Date: July 11, 2006

Project #: 6-519-004033

Report #: 386

Work Order #: 20 Sampled By: Client

Date Sampled:

SOILS / AGGREGATES

Lab#	Color & Type of Material	Sample Source	Wet Weight (g)	Dry Weight (g)	Moisture (%)	Dry Density (pcf)
6-0839-01	n to the same of t	8HSA-33 A 0'	344.1	332.6	3.5%	
5-0639-01 5-0839-02		8HSA-33 B 2.5'	335.7	318.8	5.3%	
5-0639-02 5-0839-03		8HSA-33 C 5'	290.2	280.5	3.5%	
		8HSA-33 D 7.5'	377.2	360.8	4.5%	
6-0839-04		8HSA-33 E 10'	329.8	322.6	2.2%	
6-0839-05		8HSA-33 F 12.5'	323.0	273.6	18.1%	
6-0839-06		8HSA-33 G 15'	416.4	354.1	17.6%	
6-0839-07		8HSA-33 H 17.5	226.6	193.8	16.9%	
6-0839-08		8HSA-33 20'	473.1	404.5	17.0%	
6-0839-09		8HSA-33 J 22.5'	346.9	344.8	0.6%	
6-0839-10 6-0839-11		8HSA-33 K 25'	144.5	137.5	5.1 <mark>%</mark>	

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Fax 5058217371

amec

Report Date: July 11, 2006

Geomechanics Southwest Inc

Client:

416-B Menaul Blvd NW

Albuquerque, NM 87107-

Albuquerque Levees Branden L. Sanders

> Project Name: Attention:

Albuquerque, NM

Albuquerque

Project #: 6-519-004033

Work Order #: 12

Sampled By: Client

Date Sampled:

Sieve Analaysis (ASTM C117/C136)

Plasticity Index (ASTM D4318) Soil Classification (ASTM D2487)

SOILS / AGGREGATES

Lab Project Manager: Herman Garcia

Number	6-0831-01	6-0831-03	6-0831-04	6-0831-05	6-0831-06	6-0831-07	5
12"							
9							
3							
1/2"							
2" 2							
#4 1/4" 3/8" 1/2" 3/4' 1" 11/4"11/2" 2" 21/2" 3" 6" 12" Number							
7				9			
4.	100			80			9
2" 3/	98 10		99	82			89
1/	6 86		6 66	76 7	9	9	88
3/8	ő		ത	7	7	¥	ω
1/4				01	m	O	N
#	88		86	72	86	66	82
#10 #8	97		96	69	94	96	73
#10	97		96	68	92	92	20
#16	95	9	93	63	80	88	29
#30	88	66	82	48	51	99	38
#40	11	97	68	35	33	41	24
#20	99	83	48	21	19	21	3 13
#100	45	20	7	4	2	4	က
#200	26	5.4	3.3	0.7	1.7	1.0	6.0
Soil L. P.I. #200 #100 #50 #40	N VN	NV NP	N NP	NV NP	N NP	NV NP	NV NP
Soil	SM	SP-SM	SP	SP	SP	SP	SP
noitego I olamos	8HSA-34 A 0'	8HSA-34 B 2.5'	8HSA-34 C 5'	8HSA-34 D 7.5'	8HSA-34 E 10'	8HSA-34 F 12.5'	8HSA-34 G 15'

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Supplier: File:

Other: Addressee (2)

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Albuquerque, NM 87113
Tel 5058211801
Fax 5058217371



Geomechanics Southwest Inc

416-B Menaul Blvd NW Albuquerque, NM 87107-

Attn:

Branden L. Sanders

Project Name:

Albuquerque Levees

Albuquerque Albuquerque, NM

Project Manager: Herman Garcia

Report Date: July 11, 2006

Project #: 6-519-004033

Report #: 390

Work Order #: 12 Sampled By: Client

Date Sampled:

SOILS / AGGREGATES

Lab#	Color & Type of Material	Sample Source	Wet Weight (g)	Dry Weight (g)	Moisture (%)	Dry Density (pcf)
6-0831-01		8HSA-34 A 0'	278.8	272.8	2.2%	
6-0831-02		8HSA-34 B 2.5'	403.8	390.3	3.5%	
6-0831-03		8HSA-34 C 5'	379.3	341.0	11.2%	
6-0831-04		8HSA-34 D 7.5'	232.0	204.5	13.4%	
6-0831-05		8HSA-34 E 10'	189.0	162.9	16.0%	
6-0831-06		8HSA-34 F 12.5'	161.8	135.8	19.1%	
6-0831-07		8HSA-34 G 15'	197.8	173.1	14.3%	

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Tel 5058211801 Fax 5058217371



Report Date: July 10, 2006

Geomechanics Southwest Inc

Client:

Albuquerque, NM 87107-

Albuquerque Levees Branden L. Sanders

> Project Name: Attention:

Albuquerque, NM

Albuquerque

Project Manager: Herman Garcia

416-B Menaul Blvd NW

Project #: 6-519-004033

Work Order #: 13

Sampled By: Client

Date Sampled:

Sieve Analaysis (ASTM C117/C136) Plasticity Index (ASTM D4318) Soil Classification (ASTM D2487)

SOILS / AGGREGATES

																							Lab
Sample Location Class.	Soll Class.	L.L. P.I. #200 #100 #50 #40 #30	#200	#100	#20	#40	#30	#16	#10	8#	#4	1/4" 3/	3/8" 1	1/2" 3	3/4' 1	11/	1" 11/4" 11/2" 2" 21/2"	2" 2	1/2"	3	9	12"	Number
8HSA-35 A 0'	SM	N VP	16	59	53	65	72	77	80	81	85		92 6	93 1	100							Ψ	5-0832-01
8HSA-35 B 2.5'	SP-SM	N NP	7.2	17	42	59	72	83	87	87	91		94	98 1	100							w .	6-0832-02
8HSA-35 C 5'	SP-SM	NV NP	5.2	12	37	62	78	89	91	95	94		36	98 1	100							v	5-0832-03
8HSA-35 D 7.5'	SP-SM	NV NP		40	29	74	78	80	81	82	83		85	86	8 28	87	100					0	5-0832-04
8HSA-35 E 10'	SM	NV NP	19	36	70	84	9	94	92	92	96		86	98 1	100							<u>u</u>	5-0832-05
8HSA-35 F 12.5'	SP	N VN	2.7	∞	37	54	62	69	72	73	75		62	62	83 8	83	100					•	6-0832-06
8HSA-35 G 15'	SP	N N DN	2.5	თ	44	70	84	94	26	86	66	7 -	100									v	6-0832-07
8HSA-35 H 17.5'	SP	NV NP	1.8	œ	43	61	72	8	98	87	93		97 1	100								_	6-0832-08
8HSA-35 J 22.5'	SP	NV NP	0.2	0	က	7	16	35	45	49	64		2.2	84	001								6-0832-09
8HSA-35 K 25'	SP	N NP	1.7	m	10	20	31	53	99	69	79		84	88	100							_	6-0832-10
8HSA-35 M 30'	SP	NV NP	3.0	5	15	27	40	22	65	99	73		78	81	87 1	100							6-0832-11

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Geomechanics Southwest Inc

416-B Menaul Blvd NW

Albuquerque, NM 87107-

Attn:

Branden L. Sanders

Project Name:

Albuquerque Levees

Albuquerque

Albuquerque, NM

Project Manager: Herman Garcia

Report Date: July 11, 2006

Project #: 6-519-004033

Report #: 382

Work Order #: 13

Sampled By: Client

Date Sampled:

SOILS / AGGREGATES

1 -1 - #	Color & Type of Material	Sample Source	Wet Weight (g)	Dry Weight (g)	Moisture (%)	Dry Density (pcf)
Lab #	Color & Type of Material	8HSA-35 A 0'	260.3	255.1	2.0%	
3-0832-01		8HSA-35 B 2.5'	332.0	322.7	2.9%	
6-0832-02		8HSA-35 C 5'	340.2	330.7	2.9%	
6-0832-03		•	286.4	273.9	4.6%	
6-0832-04		8HSA-35 D 7.5'	172.1	164.3	4.7%	
6-0832-05		8HSA-35 E 10'	223.1	215.9	3.3%	
6-0832-06		8HSA-35 F 12.5'		344.5	5.4%	
6-0832-07		8HSA-35 G 15'	363.0	-		
6-0832-08		8HSA-35 H 17.5'	270.2	217.4	24.3%	
•		8HSA-35 J 22.5'	207.3	189.5	9.4%	
6-0832-09		8HSA-35 K 25'	166.2	144.3	15.2%	
6-0832-10		8HSA-35 M 30'	422.5	380.2	11.1%	
6-0832-11		9H3W-33 IN 30	12.0			

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Email:

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Tel 5058211801 Fax 5058217371

amec

Report Date: July 10, 2006

Geomechanics Southwest Inc.

Client:

Albuquerque, NM 87107-416-B Menaul Blvd NW

Albuquerque Levees Branden L. Sanders

Project Name:

Attention:

Albuquerque, NM

Albuquerque

Project #: 6-519-004033

Sampled By: Client Work Order #: 14

Date Sampled:

Sieve Analaysis (ASTM C117/C136) Plasticity Index (ASTM D4318)

Soil Classification (ASTM D2487)

SOILS / AGGREGATES Project Manager: Herman Garcia

6-0833-05 6-0833-06 6-0833-07 6-0833-04 6-0833-03 Lab Number 6-0833-02 6-0833-01 12" .. 5 2" 2 1/2" 1" 11/4" 11/2" 100 100 3/4 001 100 86 8 1/5.. 88 8 9 3/8" 100 96 86 8 87 1/4" 75 79 80 82 #4 75 72 89 90 **8** #10 73 65 8 #30 #16 65 99 52 65 87 28 51 #40 16 38 #200 #100 #50 8 25 24 9 9.0 N NP N NP N NP L.L. P.I. N NP N NP N NP SP-SM SP-SM SP-SM SP Class. SP SP S Sample Location 8HSA-36 F 12.5' 8HSA-36 D 7.5' 8HSA-36 E 10' 8HSA-36 G 15' 8HSA-36 B 2.5' 8HSA-36 C 5' 8HSA-36 A 0'

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Other: Addressee (2)

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8519 Jefferson NE



Geomechanics Southwest Inc

416-B Menaul Blvd NW

Albuquerque, NM 87107-

Attn:

Branden L. Sanders

Project Name:

Albuquerque Levees

Albuquerque

Albuquerque, NM

Project Manager: Herman Garcia

Report Date: July 11, 2006

Project #: 6-519-004033

Report #: 383

Work Order #: 14

Sampled By: Client

Date Sampled:

SOILS / AGGREGATES

Tojoot managem		Sample Source	Wet Weight (g)	Dry Weight (g)	Moisture (%)	Dry Density (pcf)
Lab#	Color & Type of Material	Sample Source			4.0%	
6-0833-01		8HSA-36 A 0'	374.2	359.7		
		8HSA-36 B 2.5'	360.0	345.7	4.1%	
6-0833-02		8HSA-36 C 5'	321.4	315.1	2.0%	
6-0833-03			395.3	355.0	11.4%	
6-0833-04		8HSA-36 D 7.5'	242.1	209.2	15.7%	
6-0833-05		8HSA-36 E 10'				
• • • • • • • • • • • • • • • • • • • •		8HSA-36 F 12.5'	307.6	270.1	13.9%	
6-0833-06		8HSA-36 G 15'	154.6	131.5	17.6%	
6-0833-07		011074-00 0 10				

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<u>Distribution:</u> Client: ✓

Fax 5058217371

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File: Supplier:

Other: Addressee (2)

AMEC Earth Environmental, Inc. 8519 Jefferson NE Albuquerque, NM 87113 Tel 5058211801

amec

Report Date: July 20, 2006

Geomechanics Southwest Inc.

Client:

87197-

Albuquerque, NM

P.O. Box 6527

Albuquerque Levees Branden L. Sanders

Project Name: Attention:

Albuquerque, NM

Albuquerque

Project #: 6-519-004033

Work Order #: 15

Sampled By: Client

Date Sampled:

Sieve Analaysis (ASTM C117/C136)

Plasticity Index (ASTM D4318)

Soil Classification (ASTM D2487)

SOILS / AGGREGATES Project Manager: Herman Garcia

Soil Sample Location Class. L.L. P.I. #200 #100 #50 #40 #30	Soil Class.	L.L. P.I.	#20)0 #1()9# 0() #4(0 #30		#10	#	#	1/4"	3/8"	1/2"	3/4.	-	#16 #10 #8 #4 1/4" 3/8" 1/2" 3/4' 1" 11/4"11/2" 2" 21/2" 3" 6" 12"	2	. 1/2"	 9	12"	Lab Number
8HSA-37 A 0'	SP-SM	SP-SM NV NP		8	8.8 25 70 83	83	88	91	91	92	92		94	94 94 100	100							6-0834-01
8HSA-37 B·2.5'	SP	NV NP	2.5	5		21 36	3 45	51	52	52	54		56	58	64	79	100					6-0834-02
8HSA-37 D 7.5'	SP	NV NP		2.0 5	5 27	48	9 64	78	91	85	91		96	96	100							6-0834-03
8HSA-37 E 10'	SP	NV NP		3.6 10	10 43	3 56	9 67	76	8	82	88		95	66	100							6-0834-04
8HSA-37 F 12.5'	SP	NV NP		3.7 6	17	22	40	29	78	80	87		93	95	100							6-0834-05

Reviewed By: Z

File: Distribution: Client: ▼
Email:

Supplier:

Other: Addressee (2)

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Albuquerque, NM 87113
Tel 5058211801
Fax 5058217371



Geomechanics Southwest Inc.

P.O. Box 6527

Albuquerque, NM 87197-

Report Date: July 20, 2006

Project #: 6-519-004033

Report #: 401

Work Order #: 15

Sampled By: Client

Date Sampled:

Attn:

Branden L Sanders

Project Name:

Albuquerque Levees

Albuquerque

Albuquerque, NM

Project Manager: Herman Garcia

SOILS / AGGREGATES

Lab #	Color & Type of Material	Sample Source	Wet Weight (g)	Dry Weight (g)	Moisture (%)	Dry Density (pcf)
6-0834-01		8HSA-37 A 0'	253.4	251.0	1.0%	
6-0834-02		8HSA-37 B 2.5'	179.7	176.1	2.0%	
6-0834-03		8HSA-37 D 7.5'	465.7	402.2	15.8%	
6-0834-04		8HSA-37 E 10'	354.4	298.0	18.9%	
6-0834-05		8HSA-37 F 12.5'	435.6	370.4	17.6%	

Reviewed By:

Distribution: Client:

File:

Supplier: Other: Addressee (2)

Email:

AMEC Earth Environmental, Inc.

8519 Jefferson NE Albuquerque, NM 87113

Tel 5058211801 Fax 5058217371

Same

Report Date: July 10, 2006

Geomechanics Southwest Inc

Client:

Albuquerque, NM 87107-

Albuquerque Levees

Project Name: Attention:

Albuquerque, NM

Albuquerque

Branden L. Sanders

416-B Menaul Blvd NW

Project #: 6-519-004033

Work Order #: 16

Sampled By: Client Date Sampled:

Sieve Analaysis (ASTM C117/C136) Plasticity Index (ASTM D4318)

Soil Classification (ASTM D2487)

Project Manager: Herman Garcia

SOILS / AGGREGATES

Lab Number	6-0835-01	6-0835-02	6-0835-03	6-0835-04	6-0835-05	90-9839-06	6-0835-07	6-0835-08	6-0835-09	6-0835-10	6-0835-11	6-0835-12	6-0835-13
12"		-		-		-							
.9													
3/4' 1" 11/4"11/2" 2" 21/2" 3"													
2 2													
14" 1													
: - -													
. 4								100				001	001
					0				0	0		•	,
. 1/2"	100	0	_		100			96	100	100	0	86	66
. 3/8"	95	100	100		66			92	98	97	100	94	66
1/4"													
#	06	66	66		66		100	85	96	94	98	84	94
8#	88	66	98	100	98		66	75	90	87	93	74	88
#10	88	98	26	66	86	100	66	72	88	86	91	71	86
#16	86	88	96	66	98	66	98	9	81	78	81	61	22
#30	82	92	06	26	96	94	94	39	69	58	90	44	22
#40	78	93	82	92	93	86	87	25	59	43	42	34	38
#50	72	88	69	81	85	71	74	13	46	29	25	22	21
#100	57	71	31	46	63	40	90	2	27	19	13	6	ω
#200	37	47	12	25	44	28	43	2.7	4	13	-	5.7	3.8
L.L. P.I. #2 <mark>0</mark> 0 #100 #50	QN	A D	a Q	ď	ď	თ	28	NP	N D	₽ B	4	N _D	A D
L.L.	₹	≥	≥	ž	≥	22	44	≥	≥	⋛	18	⋛	⋛
Soil Class.	SM	SM	SP-SM	SM	SM	SC	SC	SP	SM	SM	SP-SC	SP-SM	SP
Sample Location	8HSA-38 A.0'	8HSA-38 B 2.5'	8HSA-38 C 5'	8HSA-38 D 7.5'	8HSA-38 E 10'	8HSA-38 F 12.5'	8HSA-38 G 15'	8HSA-38 H 17.5'	8HSA-38 I 20'	8HSA-38 J 22 5'	8HSA-38 K 25'	8HSA-38 L 27.5'	8HSA-38 M 30'

Reviewed By:

File: <u>Distribution:</u> Client: ✓ Email: ☐

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Other: Addressee (2)

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Albuquerque, NM 87113
Tel 5058211801
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Geomechanics Southwest Inc

416-B Menaul Blvd NW

Albuquerque, NM 87107-

Attn:

Branden L. Sanders

Project Name:

Albuquerque Levees

Albuquerque

Albuquerque, NM

Report Date: July 11, 2006

Project #: 6-519-004033

Report #: 384

Work Order #: 16

Sampled By: Client

Date Sampled:

Project Manager: Herman Garcia

SOILS / AGGREGATES

	Darmon Garcia	-				
Project Manager:	Herman Garcia	Sample Source	Wet Weight	Dry Weight (g)	Moisture (%)	Dry Density (pcf)
Lab # 6-0835-01 6-0835-02 6-0835-03 6-0835-04 6-0835-05 6-0835-06 6-0835-07 6-0835-08	Color & Type of Material	8HSA-38 A 0' 8HSA-38 B 2.5' 8HSA-38 C 5' 8HSA-38 D 7.5' 8HSA-38 E 10' 8HSA-38 F 12.5' 8HSA-38 G 15' 8HSA-38 H 17.5' 8HSA-38 I 20' 8HSA-38 J 22.5'	(g) 297.3 231.1 305.4 328.7 248.7 313.3 198.3 269.0 113.0 186.0		(%) 4.0% 4.8% 2.4% 3.8% 7.1% 12.7% 27.4% 15.0% 19.1% 19.7% 20.6%	(pct)
6-0835-10 6-0835-11 6-0835-12 6-0835-13		8HSA-38 K 25' 8HSA-38 L 27.5' 8HSA-38 M 30'	157.6 158.6 214.9	139.2 182.7	13.9% 17.6%	

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Distribution: Client: Email:

File: Supplier: Other: Addressee (2)

AMEC Earth Environmental, Inc. 8519 Jefferson NE Albuquerque, NM 87113

Tel 5058211801 Fax 5058217371

Some

Report Date: July 10, 2006

Geomechanics Southwest Inc

ent:

Albuquerque, NM 87107-416-B Menaul Blvd NW

Albuquerque Levees Branden L. Sanders

> oject Name: tention:

Albuquerque, NM

Albuquerque

Project #: 6-519-004033 Work Order #: 17

Sampled By: Client

Date Sampled:

Sieve Analaysis (ASTM C117/C136) Plasticity Index (ASTM D4318) Soil Classification (ASTM D2487)

Corman Gardia

SOILS / AGGREGATES

																						Lab
1	Soil	Soil 1. P.L. #200 #100	#200	#100	#20	#40	#30	#16	#10	8	#	1/4"	3/8"	1/2"	3/4'	1.1	114" 318" 1/2" 3/4' 1" 1 1/4" 1 1/2" 2" 2 1/2" 3"	2	2 1/2"	3"	 12"	Number
Sample Location	Class.					-																6-0836-01
,0 00 00 v	귱	52 30	9	96	88	66	66	9														6-0836-02
2 V 62-VSF	. 7	49 28		76	88	9	94	97	66	66	9											
3HSA-39 B 2.5	ָ בַּי	ON AN	7 7		33	58	77	92	94	92	96		86	66	100							20-0200-0
3HSA-39 C 5	NO. TO				80		73	9	92	96	97		80	66	0							6-0836-04
3HSA-39 D 7.5'	S G	2 2		- «	3 8		80	2	68	9	96		66	100								6-0836-05
8HSA-39 E 10'	y (5 5			8	85	95	93		94	96	100							6-0836-06
8HSA-39 F 12.5'	אַל מע פֿער מע				5			51	62	65	79		87	88	06	100						6-0836-07

Reviewed By:

File: Supplier: Distribution: Client:

Other: Addressee (2)

AMEC Earth Environmental, Inc. 8519 Jefferson NE Albuquerque, NM 87113 Tel 5058211801



Geomechanics Southwest Inc

416-B Menaul Blvd NW

Albuquerque, NM 87107-

Attn:

Branden L. Sanders

Project Name:

Albuquerque Levees

Albuquerque

Albuquerque, NM

Report Date: July 11, 2006

Project #: 6-519-004033

Report #: 385

Work Order #: 17

Sampled By: Client

Date Sampled:

Project Manager:

Herman Garcia

SOILS / AGGREGATES

oject manager.	Color & Type of Material	Sample Source	Wet Weight (g)	Dry Weight (g)	Moisture (%)	Dry Density (pcf)
Lab #	Color & Type of Material	01104 20 A O	122.0	112.8	8.2%	
6-0836-01		8HSA-39 A 0'	73.7	68.0	8.4%	
6-0836-02		8HSA-39 B 2.5'	444.2	428.8	3.6%	
6-0836-03		8HSA-39 C 5'	562.0	479.4	17.2%	
6-0836-04		8HSA-39 D 7.5' 8HSA-39 E 10'	603.2	512.9	17.6%	
6-0836-05		8HSA-39 F 12.5'	150.3	125.2	20.0%	
6-0836-06		8HSA-39 G 15'	278.3	243.6	14.2%	
6-0836-07		8U9W-9a G 19				

Reviewed By: AH

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Fax 5058217371

Email:

AMEC Earth Environmental, Inc. 8519 Jefferson NE Albuquerque, NM 87113 Tel 5058211801

Report Date: July 17, 2006

Geomechanics Southwest Inc.

Client:

P.O. Box 6527

Albuquerque, NM 87197-

Albuquerque Levees Branden L Sanders

Project Name: Attention:

Albuquerque, NM

Albuquerque

Project Manager: Herman Garcia

Project #: 6-519-004033

Work Order #: 21

Sampled By: Client Date Sampled: Sieve Analaysis (ASTM C117/C136) Plasticity Index (ASTM D4318)

Soil Classification (ASTM D2487)

SOILS / AGGREGATES

Soil Sample Location Class. L.L. P.I. #2 <mark>0</mark> 0 #100 #50 # <mark>4</mark> 0 #30	Soil Class.	L.L. P.I.	#200	#100	#20	#40	#30	#16	#16 #10 #8	8#	4	1/4"	3/8"	1/2"	3/4'	<u>:</u>	Lab 1/4" 3/8" 1/2" 3/4' 1" 11/4"11/2" 2" 21/2" 3" 6" 12" Number	2,	2 1/2"	3.	9	12"	Lab Number
8HSA-40 A 0'	SM	NV NP	24	24 49	72	87	88	93	96	96	97		86	86	9								6-0840-01
8HSA-40 B 2.5'	SP-SM	N NP	7.9	17	53	75	78	98	92	93	94		95	96	100								6-0840-02
8HSA-40 C 5'	SP-SM	NV NP	7.4	17	58	82	85	92	26	26	66		100										6-0840-03
8HSA-40 D 7.5'	S	64 44	87	89	94	97	26	98	100														6-0840-04
8HSA-40 E 10'	CH	66 43	78	79	85	89	90	92	93	93	95		97	66	100								6-0840-05
8HSA-40 F 12.5'	SC	49 33	43	51	99	76	78	83	87	87	91		95	96	100								6-0840-06
8HSA-40 G 15'	SM	NV NP	29	37	54	65	71	83	93	94	98		100										6-0840-07

Reviewed By:

File: Distribution: Client: ✓ Email:

Supplier:

Other: Addressee (2)

AMEC Earth _Environmental, Inc.

8519 Jefferson NE Albuquerque, NM 87113 Tel 5058211801 Fax 5058217371



Geomechanics Southwest Inc 416-B Menaul Blvd NW

Albuquerque, NM 87107-

Attn:

Branden L. Sanders

Project Name:

Albuquerque Levees

Albuquerque

Albuquerque, NM

Report Date: July 18, 2006

Project #: 6-519-004033

Report #: 396

Work Order #: 21

Sampled By: Client

Date Sampled:

Project Manager:

Herman Garcia

SOILS / AGGREGATES

Lab #	Color & Type of Material	Sample Source	Wet Weight (g)	Dry Weight (g)	Moisture (%)	Dry Density (pcf)
6-0840-01		8HSA-40 A 0'	199.9	199.4	0.3%	
6-0840-02		8HSA-40 B 2.5'	230.9	227.3	1.6%	
6-0840 - 03		8HSA-40 C 5'	224.8	222.7	0.9%	
6-0840-04		8HSA-40 D 7.5'	140.6	114.8	22.5%	
6-0840-05		8HSA-40 E 10'	139.7	102.6	36.2%	
6-0840-06		8HSA-40 F 12.5'	202.9	150.0	35.3%	
6-0840-07		8HSA-40 G 15'	104.5	84.0	24.4%	

Reviewed By:

Distribution: Client: ✓

File: Supplier: Other: Addressee (2)

Email:

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Tel 5058211801 Fax 5058217371

Same

Report Date: July 20, 2006

Geomechanics Southwest Inc.

Client:

P.O. Box 6527

Albuquerque, NM 87197-

Albuquerque Levees Branden L Sanders

Project Name:

Attention:

Albuquerque, NM

Albuquerque

Project #: 6-519-004033

Work Order #: 22

Sampled By: Cient Date Sampled: Sieve Analaysis (ASTM C117/C136) Plasticity Index (ASTM D4318) Soil Classification (ASTM D2487)

Project Manager: Herman Garcia

SOILS / AGGREGATES

Soil Sample Location Class.	Soil Class.	L.L. P.I. #200 #100 #50 #40	#200	#100	#20	#40	#30	#16	#10	8#	4#	1/4" 3/8" 1/2"	18" 1	/5 :	3/4.	<u>+</u>	3/4' 1" 11/4" 11/2" 2" 21/2" 3" 6" 12"	. 5.	2 1/2"	 9	12"	Lab Number
8HSA-41 A.0'	SM	NV NP	29	45	65	74	79	83	85	85	86		68	06	93 1	100						6-0841-01
8HSA-41 B 2.5'	SM	NV NP	26	46	63	68	72	77	82	84	91		95	. 26	100							6-0841-02
8HSA-41 C'5'	SM	N NP	39	99	87	90	95	98	66	66	100											6-0841-03
8HSA-41 D 7.5'	SM	NV NP	26	42	20	82	88	92	26	26	98	•	100									6-0841-04
8HSA-41 E 10'	SP-SM	NV NP	9.2	33	89	97	66	66	100													6-0841-05
8HSA-41 F 12.5'	SM	NV NP	35	75	95	66	100															6-0841-06
8HSA-41 G 15'	SM	NV NP	25	42	70	87	88	92	95	95	97		98	. 66	100							6-0841-07
8HSA-41 J 22.5'	SP	NV NP	1.5	4	15	23	35	61	84	85	95		99	100								6-0841-08
8HSA-41 K 25'	SP	NV NP	1.6	က	15	24	36	65	89	06	98		100									6-0841-09
8HSA-41 L 27.5'	SP-SM	N VP	4.6	ß	23	34	65	20	06	91	96	•	100									6-0841-10
8HSA-41 M 30'	SM	NV NP	24	26	43	54	90	74	84	85	89		93	100								6-0841-11

Reviewed By:

File: <u>Distribution:</u> Client: ✓ Email:

Supplier:

Other: Addressee (2)

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Albuquerque, NM 87113
Tel 5058211801
Fax 5058217371



Geomechanics Southwest Inc.

P.O. Box 6527

Albuquerque, NM 87197-

Project #: 6-519-004033

Report Date: July 20, 2006

Report #: 402

Work Order #: 22 Sampled By: Cient

Date Sampled:

Attn:

Project Name:

Branden L Sanders

Albuquerque Levees Albuquerque

Albuquerque, NM

Project Manager: Herman Garcia

SOILS / AGGREGATES

Color & Type of Material	Sample Source	Wet Weight (g)	Dry Weight (g)	Moisture (%)	Dry Density (pcf)
	8HSA-41 A 0'	241.9	235.7	2.6%	
	8HSA-41 B 2.5'	270,7	255.5	5.9%	
	8HSA-41 C 5'	245.6	230.7	6.5%	
	8HSA-41 D 7.5'	240.3	231.0	4.0%	
	8HSA-41 E 10'	238.2	233.5	2.0%	
	8HSA-41 F 12.5'	358.2	302.9	18.3%	
	8HSA-41 G 15'	321.6	265.3	21.2%	
	8HSA-41 J 22.5'	249.6	210.8	18.4%	
	8HSA-41 K 25'	119.8	100.3	19.4%	
	8HSA-41 L 27.5'	42.0	34.8	20.7%	
	8HSA-41 M 30'	79.2	64.3	23.2%	
	Color & Type of Material	8HSA-41 A 0' 8HSA-41 B 2.5' 8HSA-41 C 5' 8HSA-41 D 7.5' 8HSA-41 E 10' 8HSA-41 F 12.5' 8HSA-41 G 15' 8HSA-41 J 22.5' 8HSA-41 K 25' 8HSA-41 L 27.5'	Color & Type of Material Sample Source (g) 8HSA-41 A 0' 241.9 8HSA-41 B 2.5' 270.7 8HSA-41 C 5' 245.6 8HSA-41 D 7.5' 240.3 8HSA-41 E 10' 238.2 8HSA-41 F 12.5' 358.2 8HSA-41 G 15' 321.6 8HSA-41 J 22.5' 249.6 8HSA-41 K 25' 119.8 8HSA-41 L 27.5' 42.0	Color & Type of Material Sample Source (g) (g) 8HSA-41 A 0' 241.9 235.7 8HSA-41 B 2.5' 270.7 255.5 8HSA-41 C 5' 245.6 230.7 8HSA-41 D 7.5' 240.3 231.0 8HSA-41 E 10' 238.2 233.5 8HSA-41 F 12.5' 358.2 302.9 8HSA-41 G 15' 321.6 265.3 8HSA-41 J 22.5' 249.6 210.8 8HSA-41 K 25' 119.8 100.3 8HSA-41 L 27.5' 42.0 34.8	Color & Type of Material Sample Source (g) (g) (%) 8HSA-41 A 0' 241.9 235.7 2.6% 8HSA-41 B 2.5' 270.7 255.5 5.9% 8HSA-41 C 5' 245.6 230.7 6.5% 8HSA-41 D 7.5' 240.3 231.0 4.0% 8HSA-41 E 10' 238.2 233.5 2.0% 8HSA-41 F 12.5' 358.2 302.9 18.3% 8HSA-41 G 15' 321.6 265.3 21.2% 8HSA-41 J 22.5' 249.6 210.8 18.4% 8HSA-41 K 25' 119.8 100.3 19.4% 8HSA-41 L 27.5' 42.0 34.8 20.7%

Distribution: Client: ✓ Email:

File: Supplier: Other: Addressee (2)

AMEC Earth Environmental, Inc. 8519 Jefferson NE Albuquerque, NM 87113 Tel 5058211801 Fax 5058217371

Same

Report Date: July 21, 2006

Geomechanics Southwest Inc.

Client:

P.O. Box 6527

Albuquerque, NM 87197-

Albuquerque Levees Branden L Sanders

Project Name: Attention:

Albuquerque, NM

Albuquerque

Project Manager: Herman Garcia

Project #: 6-519-004033

Work Order #: 23

Sampled By: Client

Date Sampled:

Sieve Analaysis (ASTM C117/C136) Plasticity Index (ASTM D4318) Soil Classification (ASTM D2487)

SOILS / AGGREGATES

Lab Number	6-0842-01	6-0842-02	6-0842-03	6-0842-04	6-0842-05	6-0842-06
12"						
9						
÷.						
2 1/2"						
5						
#4 1/4" 3/8" 1/2" 3/4' 1" 11/4"11/2" 2" 21/2" 3" 6" 12"						
. -					100	100
3/4"		100		100	96	94
1/2"		97 97 100		66	96	94
3/8"		26		66	92	93
1/4"						
#4	100	26	100	98	90	90
	86	26	66	96	80	98
#10	97	96	66	96	11	84
#16 #10 #8	94	96	26	93	29	9/
#30	85	95	90	78	45	22
#40	78	92	82	22	28	20 37
#20	69	98	64	32	14	20
#100	24 40 69 78	31		9	2	1.5 5
#200	24	5.6	2.8	1.8	6.0	1.5
L.L. P.I.	37 19	N NP	N NP	N N N	NV NP	N NP
Soil Class.	SC	SP-SM	SP	SP	SP	SP
Soil Sample Location Class. L.L. P.I. #200 #100 #50 #40 #30	8HSA-42 A 0'	8HSA-42 B 2.5'	8HSA-42 C 5'	8HSA-42 D 7.5'	8HSA-42 F 12.5'	8HSA-42 G 15'

Reviewed By:

Client: <a>Client Distribution:

Supplier:

File:

Other: Addressee (2)

AMEC Earth Environmental, Inc. 8519 Jefferson NE
Albuquerque, NM 87113
Tel 5058211801
Fax 5058217371



Geomechanics Southwest Inc.

P.O. Box 6527

Albuquerque, NM 87197-

Report Date: July 21, 2006

Project #: 6-519-004033

Report #: 407

Work Order #: 23

Sampled By: Client

Date Sampled:

Attn:

Branden L Sanders

Albuquerque Levees

Albuquerque

Albuquerque, NM

Project Manager: Herman Garcia

Project Name:

SOILS / AGGREGATES

Color & Type of Material	Sample Source	Wet Weight (g)	Dry Weight (g)	Moisture (%)	Dry Density (pcf)
	8HSA-42 A 0'	78.1	75.6	3.3%	
	8HSA-42 B 2.5'	408.3	395.5	3.2%	
	8HSA-42 C 5'	618.6	518.9	19.2%	
	8HSA-42 D 7.5'	687.1	571.1	20.3%	
	8HSA-42 F 12.5'	320.9	277.2	15.8%	
	8HSA-42 G 15'	256.1	219.7	16.6 <mark>%</mark>	
	Color & Type of Material	8HSA-42 A 0' 8HSA-42 B 2.5' 8HSA-42 C 5' 8HSA-42 D 7.5' 8HSA-42 F 12.5'	Color & Type of Material Sample Source (g) 8HSA-42 A 0' 78.1 8HSA-42 B 2.5' 408.3 8HSA-42 C 5' 618.6 8HSA-42 D 7.5' 687.1 8HSA-42 F 12.5' 320.9	Color & Type of Material Sample Source (g) (g) 8HSA-42 A 0' 78.1 75.6 8HSA-42 B 2.5' 408.3 395.5 8HSA-42 C 5' 618.6 518.9 8HSA-42 D 7.5' 687.1 571.1 8HSA-42 F 12.5' 320.9 277.2	Color & Type of Material Sample Source (g) (g) (%) 8HSA-42 A 0' 78.1 75.6 3.3% 8HSA-42 B 2.5' 408.3 395.5 3.2% 8HSA-42 C 5' 618.6 518.9 19.2% 8HSA-42 D 7.5' 687.1 571.1 20.3% 8HSA-42 F 12.5' 320.9 277.2 15.8%

Reviewed By:

Distribution: Client: ✓

File: Supplier: Other: Addressee (2)

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Report Date: July 20, 2006

Geomechanics Southwest Inc.

Client:

87197-

Albuquerque, NM

P.O. Box 6527

Albuquerque Levees

Project Name:

Attention:

Albuquerque, NM

Albuquerque

Branden L Sanders

Project #: 6-519-004033

Work Order #: 24

Sampled By: Cient

Date Sampled:

Sieve Analaysis (ASTM C117/C136) Plasticity Index (ASTM D4318)

Soil Classification (ASTM D2487)

SOILS / AGGREGATES Project Manager: Herman Garcia

SW-SM NV NP 99 20 43 55 64 75 80 89 99 90	Soil Sample Location Class. L.L. P.I. #200 #100 #50 #40	Soil Class.	L.L. P.I.	#20	0 #10	0 #50	1 #40	0 #30	#16	#10	#16 #10 #8 #4	#	1/4"	3/8"	1/2"	3/4.	ŧ	1 1/4" 1 1/2"	2".	1/2"	÷	.9	12"	Lab
NV NP 36 46 84 94 98 99 100 20 1 58 99 99 100 77 80 80 100 NV NP 4.8 15 36 53 69 77 80 80 100 NV NP 6.6 18 34 43 53 69 78 81 90 99 100 NV NP 1.3 3 9 16 24 46 56 58 71 80 89 100	S	W-SM	N N PN			, 43			75	80	82	88		89	92	95	100					1		6-0843-04
20 1 58 90 98 99 100		SM	NV NP						66	66	66	100												0.043.00
NV NP 4.8 15 36 53 65 72 74 74 76 50 99 100 100 100 100 100 100 100 100 100		ML	20 1						100															20-0400-0
NV NP 4.8 15 36 53 65 72 74 74 76 77 80 80 80 100 NV NP 6.6 18 34 43 53 69 78 81 90 99 100 NV NP 1.3 3 9 16 24 46 56 58 71 82 86 89 100		SP	NV NP						95	66	66	66		100										0-0040-00
NV NP 6.6 18 34 43 53 69 78 81 90 99 100 NV NP 1.3 3 9 16 24 46 56 58 71 82 86 89 100	S	P-SM	NV NP						72	74	74	92		77	80	80	80	100						40-0400-0
NV NP 1.3 3 9 16 24 46 56 58 71 82 86 89 100	S	P-SM	NV NP						69	78	81	90		66	100									6-043-03 6-0843-06
		SP	NV NP						46	56	58	71		82	98	89	100							6-0843-07

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Project #: 6-519-004033

Report Date: July 20, 2006

Report #: 404

Work Order #: 24

Sampled By: Cient

Date Sampled:

Attn:

Branden L Sanders

Project Name:

Albuquerque Levees

Albuquerque Albuquerque, NM

Project Manager:

Herman Garcia

SOILS / AGGREGATES

Lab #	Color & Type of Material	Sample Source	Wet Weight (g)	Dry Weight (g)	Moisture (%)	Dry Density (pcf)
6-0843-01		8HSA-43 A 0'	257.0	255.0	0.8%	-
6-0843-02		8HSA-43 B 2,5'	358.2	324.7	10.3%	
6-0843-03		8HSA-43 C 5'	297.6	251.3	18.4%	
6-0843-04		8HSA-43 D 7.5'	381.4	318.2	19.9%	
6-0843-05		8HSA-43 E 10'	227.4	192.4	18.2%	
6-0843-06		8HSA-43 F 12.5'	171.0	146.6	16.6%	
6-0843-07		8HSA-43 G 15'	128.8	115.4	11.6%	

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Geomechanics Southwest Inc. Client:

P.O. Box 6527

87197-Albuquerque, NM

Branden L Sanders Attention: Albuquerque Levees Project Name:

Albuquerque

Albuquerque, NM

Project #: 6-519-004033 Work Order #: 25

Report Date: July 21, 2006

Sampled By: Client Date Sampled: Sieve Analaysis (ASTM C117/C136) Plasticity Index (ASTM D4318) Soil Classification (ASTM D2487)

Project Manager: Herman Garcia

SOILS / AGGREGATES

Lab Number	3-0844-01	6-0844-02	6-0844-03	6-0844-04	6-0844-05	6-0844-06	6-0844-07	6-0844-08	6-0844-09	5-0844-10	5-0844-11	5-0844-12	6-0844-13
12"		v	W	ð	w.	•	v		v	æ	•	v	Ψ
9													
1/2"													
2 2													
1" 11/4"11/2" 2" 21/2" 3"	100									100			
	88									78			
3/4.	81		100					100	100	78			100
1/2"	11	100	26					66	98	78			86
1/4" 3/8"	74	66	96		100		100	66	26	77		100	26
1/4"													
#	89	66	95		86	100	66	98	93	77	100	66	94
8#	64	98	94		96	98	98	26	91	77	66	66	93
#10	63	97	93		95	98	26	26	91	11	66	66	92
#16	09	96	91		93	26	95	92	8	77	86	66	95
#30	55	95	85	100	6	91	87	99	85	9/	96	86	92
#40	20	87	79	66	87	84	71	41	78	75	91	98	91
#20	43	6/	89	94	81	71	42	21	65	71	85	96	91
	26	41	35	48	58	26	10	4	17	4	80	83	83
#200 #100	13	17	4	14	35	6.3	2.4	1.6	7.4	18	75	99	59
L.L. P.J. #	N NP	N NP	NV NP	NV NP	N N N	N NP	NV NP	N NP	NV NP	N NP	78 56	52 34	44 27
Soil Class.	SM	SM	SM	SM	SM	SP-SM	SP	Sp	SP-SM	SM	끙	ᆼ	占
Sample Location	8HSA-44 A 0'	8HSA-44 B 2.5'	8HSA-44 C 5'	8HSA-44 D 7.5'	8HSA-44 E 10'	8HSA-44 F 12.5'	8HSA-44 G 15'	8HSA-44 H 17.5'	8HSA-44 I 20'	8HSA-44 J 22.5'	8HSA-44 K 25'	8HSA-44 L 27.5'	8HSA-44 M 30'

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Geomechanics Southwest Inc.

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Attn:

Project Name:

Albuquerque Levees

Albuquerque

Branden L Sanders

Albuquerque, NM

Report Date: July 21, 2006

Project #: 6-519-004033

Report #: 409

Work Order #: 25

Sampled By: Client

Date Sampled:

Project Manager:

Herman Garcia

SOILS / AGGREGATES

Lab#	Color & Type of Material	Sample Source	Wet Weight (g)	Dry Weight (g)	Moisture (%)	Dry Densit (pcf)
6-0844-01		8HSA-44 A 0'	688.4	674.1	2.1%	
6-0844-02		8HSA-44 B 2.5'	644.3	618.5	4.2%	
6-0844-03		8HSA-44 C 5'	651.2	625.9	4.0%	
5-0844-04		8HSA-44 D 7.5'	600.6	582.3	3.1%	
3-0844-05		8HSA-44 E 10'	84.0	77.9	7.8%	
6-0844-06		8HSA-44 F 12.5'	499.4	480.2	4.0%	
-0844-07		8HSA-44 G 15'	597.5	512.1	16.7%	
6-0844-08		8HSA-44 H 17.5'	623.7	516.1	20.8%	
6-0844-09		8HSA-44 I 20'	375.1	310.1	21.0%	
6-0844-10		8HSA-44 J 22.5'	242.9	198.4	22.4%	
5-0844-11		8HSA-44 K 25'	431.0	319.2	35.0%	
6-0844-12		8HSA-44 L 27.5'	47.8	37.9	26.1%	
5-0844-13		8HSA-44 M 30'	362.9	301.1	20.5%	

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Report Date: July 21, 2006

Geomechanics Southwest Inc.

Client:

87197-

Albuquerque, NM

P.O. Box 6527

Project #: 6-519-004033

Work Order #: 26

Sampled By: Client Date Sampled: Sieve Analaysis (ASTM C117/C136) Plasticity Index (ASTM D4318)

Soil Classification (ASTM D2487)

SOILS / AGGREGATES

Project Manager: Herman Garcia

Albuquerque, NM

Albuquerque

Albuquerque Levees

Project Name:

Attention:

Branden L Sanders

Lab Number 6-0845-02 6-0845-03 5-0845-01 6-0845-04 6-0845-05 12" .9 ě 2 1/2" 5. 1" 11/4" 11/2" 3/4, 9 1/2" 9 86 97 1/4" 3/8" 66 96 98 100 #4 95 97 97 95 66 93 93 **8**# 100 #10 66 92 93 #16 88 99 66 87 #30 65 97 97 8 #40 95 42 91 #200 #100 #50 79 89 61 99 30 45 2.4 38 L.L. P.I. NV NP 31 19 NV NP 30 18 NV NP SP-SM Soil Class. SC SM SC Sample Location 8HSA-45 D 7.5' 8HSA-45 B 2.5' 8HSA-45 G 15' 8HSA-45 C 5' 8HSA-45 A 0'

Reviewed By:

> File: Client: 🗸 Email: 🗌 Distribution:

Supplier:

Other: Addressee (2) >

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Geomechanics Southwest Inc.

P.O. Box 6527

Albuquerque, NM 87197-

Report Date: July 21, 2006

Project #: 6-519-004033

Report #: 408

Work Order #: 26 Sampled By: Client

Date Sampled:

Attn:

Project Name:

Project Manager: Herman Garcia

Branden L Sanders Albuquerque Levees

Albuquerque

Albuquerque, NM

SOILS / AGGREGATES

Lab #	Color & Type of Material	Sample Source	Wet Weight (g)	Dry Weight (g)	Moisture (%)	Dry Density (pcf)
6-0845-01		8HSA-45 A 0'	350.6	344.6	1.7%	0
6-0845-02		8HSA-45 B 2.5'	380.6	324.8	17.2%	
6-0845-03		8HSA-45 C 5'	381.4	343.9	10.9%	
6-0845-04		8HSA-45 D 7.5'	389.1	311.9	24.8%	
6-0845-05		8HSA-45 G 15'	347.4	290.4	19.6%	

Reviewed By:_

Distribution: Client:

File: Supplier: Other: Addressee (2)

Email:

AMEC Earth Environmental, Inc. 8519 Jefferson NE

Albuquerque, NM 87113 Tel 5058211801 Fax 5058217371

Report Date: July 20, 2006

Geomechanics Southwest Inc.

Client:

87197-

Albuquerque, NM

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Albuquerque Levees

Project Name:

Attention:

Albuquerque, NM

Albuquerque

Branden L Sanders

Project #: 6-519-004033

Work Order #: 27

Sampled By: Client

Date Sampled:

Sieve Analaysis (ASTM C117/C136)

Plasticity Index (ASTM D4318) Soil Classification (ASTM D2487)

Project Manager: Herman Garcia

SOILS / AGGREGATES

6-0846-08 6-0846-09 6-0846-10 6-0846-11 6-0846-12 6-0846-02 6-0846-03 6-0846-04 6-0846-05 6-0846-06 6-0846-07 6-0846-01 Number Lab 12" . 6 'n 2 1/2" 5... 1" 11/4" 11/2" 100 100 9/ 3/4 100 8 100 100 100 67 1/2" 100 66 69 86 92 93 94 3/8" 100 66 9 66 63 92 95 93 9 1/4" 76 91 84 87 # 99 98 99 99 50 75 73 84 99 97 99 61 8# 97 #10 42 2 99 97 97 66 58 83 #16 100 001 95 99 32 62 26 99 91 #30 66 66 26 93 8 84 98 4 46 #40 90 83 80 95 95 66 24 33 28 38 #200 #100 #50 63 89 29 89 8 23 8 32 53 20 22 42 34 S 9 2.3 2.6 2.1 26 23 39 2.1 19 NV NP NV NP NV NP NV NP N NP NV NP N NP L.L. P.I. 15 NV NP NV NP N NP N NP 28 SP-SM Soil Class. SM SM S SC SР SP SP SM S SP SP Sample Location 8HSA-47 F 12.5' 8HSA-47 H 17.5' 8HSA-47 L 27.5' 8HSA-47 J 22.5' 8HSA-47 B 2.5' 8HSA-47 D 7.5' 8HSA-47 G 15' 8HSA-47 K 25' 8HSA-47 E 10' 8HSA-47 I 20' 8HSA-47 C 5' 8HSA-47 A 0'

Reviewed By:

> File: Client: 🗸 Email: 🗀

Distribution:

Supplier:

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Other: Addressee (2)

6-0846-13

100

66

99

99

95

87

72

47

38

N NP

8HSA-47 M 30'

AMEC Earth Environmental, Inc. 8519 Jefferson NE

Albuquerque, NM 87113 Tel 5058211801 Fax 5058217371



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Geomechanics Southwest Inc.

P.O. Box 6527

Albuquerque, NM 87197-

Branden L Sanders

Project Name:

Albuquerque Levees

Albuquerque

Albuquerque, NM

Report Date: July 20, 2006

Project #: 6-519-004033

Report #: 403

Work Order #: 27

Sampled By: Client

Date Sampled:

Project Manager:

Herman Garcia

SOILS / AGGREGATES

Lab #	Color & Type of Material	Sample Source	Wet Weight (g)	Dry Weight (g)	Moisture (%)	Dry Densit (pcf)
6-0846-01		8HSA-47 A 0'	406.5	384.8	5.6%	
6-0846-02		8HSA-47 B 2.5'	563.5	526.9	6.9%	
6-0846-03		8HSA-47 C 5'	603.0	564.1	6.9%	
6-0846 - 04		8HSA-47 D 7.5'	488.0	463.8	5.2%	
6-0846-05		8HSA-47 E 10'	344.0	306.5	12.2%	
6-0846-06		8HSA-47 F 12.5'	541.4	532.2	1.7%	
6-0846-07		8HSA-47 G 15'	598.7	545.6	9.7%	
6-0846-08		8HSA-47 H 17.5'	210.8	188.3	11.9%	
6-0846-09		8HSA-47 20'	449.4	391.8	14.7%	
6-0846-10		8HSA-47 J 22.5'	403.4	349.3	15.5%	
6-0846-11		8HSA-47 K 25'	120.7	102.7	17.5%	
6-0846-12		8HSA-47 L 27.5'	124.3	103.0	20.7%	
6-0846-13		8HSA-47 M 30'	411.7	339.0	21.4%	

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Email: __

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Report Date: July 24, 2006

Geomechanics Southwest Inc.

Client:

87197-

Albuquerque, NM

P.O. Box 6527

Project #: 6-519-004033

Work Order #: 28

Sampled By: Client Date Sampled: Sieve Analaysis (ASTM C117/C136) Plasticity Index (ASTM D4318) Soil Classification (ASTM D2487)

Project Manager: Herman Garcia

Albuquerque Levees

Project Name: Attention:

Albuquerque, NM

Albuquerque

Branden L Sanders

SOILS / AGGREGATES

Lab Number	6-0847-01	6-0847-02	6-0847-03	6-0847-04	6-0847-05	6-0847-06	6-0847-07
12"							
9							
3.							
2 1/2"							
2							
Lab 1/4" 3/8" 1/2" 3/4' 1" 11/4"11/2" 2" 21/2" 3" 6" 12" Number							
=					100	100	
3/4,					90	96	
1/2"					87	94	
3/8"	100		100		84	06	
1/4"							
4	66		66	100	74	75	
	66	100	86	66	61	2 6	
#10	66	66	98	66	58	52	
#16	86	86	16	66	45	37	100
#30	26	92	88	86	27	21	90
#40	95	84	75	96	19	14	29
#20	91	20	54	93	13	6	35
#100	80	29	15	45	2	7	თ
#200	59	~~	2.7	8.4	2.4	9.0	3.0
-: -:	N.P.	ΝD	ΝD	ΔN	ΝP	N _P	d N
i.	NV NP	\geq	NV NP	N NP	N VN	NV NP	N N N
Soil Class.	ML	SP-SM NV NP	SP	SP-SM	SP	SP	SP
Soil Sample Location Class. L.L. P.I. #200 #100 #50 #40 #30 #16 #10 #8	8HSA-48 A 0'	8HSA-48 B 2.5'	8HSA-48 C 5'	8HSA-48 D 7.5'	8HSA-48 E 10'	8HSA-48 F 12.5'	8HSA-48 G 15'

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Albuquerque, NM 87197-

Attn:

Branden L Sanders

Project Name:

Albuquerque Levees

Albuquerque Albuquerque, NM Report Date: July 24, 2006

Project #: 6-519-004033

Report #: 410

Work Order #: 28

Sampled By: Client

Date Sampled:

Project Manager: Herman Garcia

SOILS / AGGREGATES

Lab #	Color & Type of Material	Sample Source	Wet Weight (g)	Dry Weight (g)	Moisture (%)	Dry Density (pcf)
6-0847-01		8HSA-48 A 0'	422.1	410.0	3.0%	
6-0847-02		8HSA-48 B 2.5'	422.2	417.7	1.1%	
6-0847-03		8HSA-48 C 5'	370.8	366.8	1.1%	
6-0847-04		8HSA-48 D 7.5'	529.4	418.4	26.5%	
6-0847-05		8HSA-48 E 10'	395.4	355.7	11.2%	
6-0847-06		8HSA-48 F 12.5'	329.2	287.7	14.4%	
6-0847-07		8HSA-48 G 15'	285.3	234.6	21.6%	

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Albuquerque, NM

P.O. Box 6527

Albuquerque Levees

Project Name: Attention:

Albuquerque, NM

Albuquerque

Branden L Sanders

Project #: 6-519-004033

Work Order #: 29

Sampled By: Client

Date Sampled:

Sieve Analaysis (ASTM C117/C136)

Plasticity Index (ASTM D4318) Soil Classification (ASTM D2487)

Soil Classification (ASTM D2487)	
SOILS/AGGREGATES	
Project Manager: Herman Garcia	

Sample Location	Soil Class.	L.L. P.I. # <mark>200</mark> #100	#200	#100	#20	#40	#30	#16	#10	8#	#	1/4" 3/8"	1/2"	3/4'	÷	112" 314' 1" 1114"1112" 2" 2112" 3"	2" 2	1/2" 3	6" 12"	5	Lab Number
8HSA-49 A 0'	SM	NV NP	22	32	52	64	29	75	82	82	87	92	95	100							5-0848-01
8HSA-49 B 2.5'	SM	NV NP	37	48	68	79	82	83	94	95	66	100								Θ	5-0848-02
8HSA-49 C 5'	SM	NV NP	29	40	62	75	79	87	92	95	98	100								Ψ	6-0848-03
8HSA-49 D 7.5'	SM	N NP	37	49	29	80	87	90	95	95	97	66	100							Ψ	6-0848-04
8HSA-49 E 10'	ML	NV NP	74	91	95	98	66	100												Ψ	6-0848-05
8HSA-49 F 12.5'	SM	NV NP	24	61	85	98	98	66	100											. ω	6-0848-06
8HSA-49 G 15'	SP-SM	N NP	6.4	23	29	59	79	88	90	92	96	86	66							. ω	6-0848-07
8HSA-49 H 17.5'	SP	NV NP	7:	2	13	20	28	46	61	63	72	83	85	95	100					. ω	6-0848-08
8HSA-49 l 20'	SP	NV NP	1.3	4	15	22	36	46	61	44	78	06	92	100						΄ ω	6-0848-09
8HSA-49 J 22.5'	SW	N NP	4.1	9	19	27	37	9	80	82	89	94	98	100						Ф	5-0848-10
8HSA-49 K 25'	SP	NV NP	1.0	က	13	21	30	55	74	92	98	93	96	100						Φ	6-0848-11
8HSA-49 L 27.5'	SP	N NP	0.5	۲	7	-	24	40	78	80	93	86	86	100						Θ	6-0848-12

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P.O. Box 6527

Albuquerque, NM 87197-

Report Date: July 20, 2006

Project #: 6-519-004033

Report #: 405

Work Order #: 29

Sampled By: Client

Date Sampled:

Attn:

Branden L Sanders

Project Name:

Albuquerque Levees

Albuquerque

Albuquerque, NM

Project Manager: Herman Garcia

SOILS / AGGREGATES

Lab #	Color & Type of Material	Sample Source	Wet Weight (g)	Dry Weight (g)	Moisture (%)	Dry Density (pcf)
6-0848-01		8HSA-49 A 0'	451.9	433.9	4.1%	
5-0848-02		8HSA-49 B 2.5'	460.5	407.4	13.0%	
6-0848-03		8HSA-49 C 5'	408.7	372.5	9.7%	
6-0848-04		8HSA-49 D 7:5'	388.6	354.3	9.7%	
6-0848-05		8HSA-49 E 10'	292.4	241.3	21.2%	
5-0848-06		8HSA-49 F 12.5'	464.2	424.0	9.5%	
6-0848-07		8HSA-49 G 15'	526.7	491.2	7.2%	
6-0848-08		8HSA-49 H 17.5'	464.9	416.8	11.5%	
6-0848-09		8HSA-49 I 20'	477.1	423.2	12.7%	
5-0848-10		8HSA-49 J 22.5'	485.2	412.3	17.7%	
5-0848-11		8HSA-49 K 25'	349.7	347.1	0.7%	
5-0848-12		8HSA-49 L 27.5'	320.7	268.6	19.4%	

Reviewed By:

Distribution: Client:

File:

Other: Addressee (2)

Supplier: 🗹 Email:

AMEC Earth Environmental, Inc. 8519 Jefferson NE

Albuquerque, NM 87113 Tel 5058211801 Fax 5058217371

Same

Geomechanics Southwest Inc.

Client:

P.O. Box 6527

87197-Albuquerque, NM

Branden L Sanders Attention:

Albuquerque Levees Project Name:

Albuquerque

Albuquerque, NM

Report Date: July 20, 2006

Project #: 6-519-004033 Work Order #: 30

Sampled By: Client

Date Sampled:

Sieve Analaysis (ASTM C117/C136) Plasticity Index (ASTM D4318)

Soil Classification (ASTM D2487)

SOILS / AGGREGATES Project Manager: Herman Garcia

Soil Sample Location Class. L.L. P.I. # <mark>20</mark> 0 #100 #50 # <mark>40</mark> #30 #16 #10 #8	Soil Class.	L.L. P.I.	#200	#100	#20	#40	#30	#16	#10	8#	4	1/4"	8/		3/4,	-	Lab #4 1/4" 3/8" 1/2" 3/4' 1" 11/4"11/2" 2" 21/2" 3" 6" 12" Number	7.	2 1/2"	ي م	9	12"	Lab Number
8HSA-50 A 0'	뀽	65 42	51	58	95	78	82	68	96	96	86		100										6-0849-01
8HSA-50 B 2.5'	SM	NV NP	31	55	9/	06	92	96	66	66	100												6-0849-02
8HSA-50 C 5'	SP	NV NP	1.7	6	30	42	52	73	88	88	93		. 26	100									6-0849-03
8HSA-50 D 7.5'	SP	N NP		4	17	25	36	09	81	81	84		93	95	100								6-0849-04
8HSA-50 F 12.5'	SP	NV NP	0.3	_	7	10	19	40	22	61	80		95	. 96	100								6-0849-05
8HSA-50 G 15'	SP	NV NP		0.0	80	13	20	20 36	49	53	29		80	82	90 1	100							6-0849-06

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File: Distribution: Client: ☑
Email: □

Supplier:

Other: Addressee (2)

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Albuquerque, NM 87113
Tel 5058211801
Fax 5058217371



Geomechanics Southwest Inc.

P.O. Box 6527

Albuquerque, NM 87197-

Report Date: July 20, 2006

Project #: 6-519-004033

Report #: 406

Work Order #: 30

Sampled By: Client

Date Sampled:

Attn:

Project Name:

Branden L Sanders

Albuquerque Levees Albuquerque

Albuquerque, NM

Project Manager: Herman Garcia

SOILS / AGGREGATES

Lab #	Color & Type of Material	Sample Source	Wet Weight (g)	Dry Weight (g)	Moisture (%)	Dry Density (pcf)
6-0849-01		8HSA-50 A 0'	265.5	244.0	8.8%	5
6-0849-02		8HSA-50 B 2.5'	407.5	392.2	3.9%	
6-0849-03		8HSA-50 C 5'	382.7	372.0	2.9%	
6-0849-04		8HSA-50 D 7.5'	400.7	340.6	17.6%	
6-0849-05		8HSA-50 F 12.5'	394.5	345.1	14.3%	
6-0849-06		8HSA-50 G 15'	190.8	171.9	11.0%	

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Distribution: Client:

File:

Supplier: Other: Addressee (2)

AMEC Earth Environmental, Inc. 8519 Jefferson NE Albuquerque, NM 87113 Tel 5058211801

Fax 5058217371

Same

Report Date: July 26, 2006

Geomechanics Southwest Inc.

Client:

87197-

Albuquerque, NM

P.O. Box 6527

Albuquerque Levees

Project Name: Attention:

Albuquerque, NM

Albuquerque

Branden L Sanders

Project #: 6-519-004033

Work Order #: 31

Sampled By: Client Date Sampled: Sieve Analaysis (ASTM C117/C136)

Plasticity Index (ASTM D4318) Soil Classification (ASTM D2487)

SOILS / AGGREGATES Project Manager: Herman Garcia

Soil Sample Location Class.	Soil Class.	L.L. P.1.	#200	# <mark>20</mark> 0 #100 #50	#20	#40	#30	#16	#10	8#	4	1/4" 3/8"	. 1/2"	3/4.	1" 11/4"11/2" 2" 21/2"	2" 2	:.	9	12"	Lab Number
8HSA-51 A 0'	SM	17 3	27	35	54	65	89	92	83	84	89	93	94	100						6-0850-01
8HSA-51 B 2.5'	ರ	27 11	77	82	88	92	92	26	98	86	66	66	66	100						6-0850-02
8HSA-51 C 5'	SC-SM	18 4	49	29	77	88	06	94	86	86	66	66	100	0						6-0850-03
8HSA-51 D 7.5'	SC-SM	19 5	46	63	82	90	94	86	98	66	66	66	100	0						6-0850-04
8HSA-51 E 10'	ъ	28 10	81	87	93	95	26	66	66	66	66	100	_							6-0850-05
8HSA-51 F 12.5'	SP	N NP	3.9	15	53	9/	88	89	66	66	98	66	100	0						90-0820-9
8HSA-51 G 15'	SP	NV NP	2.8	S	32	48	53	78	95	95	98	66	66	100						6-0850-07
8HSA-51 H 17.5'	SW	NV NP	1 4	ო	4	20	30	54	72	75	89	26	86	100						80-0820-9
8HSA-51 [20'	SP	N NP	0.8	က	23	34	43	61	77	78	87	92	93	100						6-0820-9
8HSA-51 K 25'	SP	N NP	0.4	7	4	20	34	64	88	06	96	66	100	0						6-0850-10
8HSA-51 L 27.5'	SM	NV NP	14	18	39	09	9/	91	94	95	98	66	100	_						6-0850-11
8HSA-51 M 30'	С	48 28	87	94	95	96	26	86	66	66	100									6-0850-12

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Other: Addressee (2)

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Geomechanics Southwest Inc.

P.O. Box 6527

Albuquerque, NM 87197-

Attn:

Branden L Sanders

Project Name:

Albuquerque Levees

Albuquerque

Albuquerque, NM

Report Date: July 26, 2006

Project #: 6-519-004033

Report #: 414

Work Order #: 31

Sampled By: Client

Date Sampled:

Project Manager: Herman Garcia

SOILS / AGGREGATES

Lab#	Color & Type of Material	Sample Source	Wet Weight (g)	Dry Weight (g)	Moisture (%)	Dry Density (pcf)
6-0850-01		8HSA-51 A 0'	411.2	393.4	4.5%	
6-0850-02		8HSA-51 B 2,5'	341.0	291.5	17.0%	
6-0850-03		8HSA-51 C 5'	356.5	317.9	12.1%	
3-0850-04		8HSA-51 D 7.5'	409.0	377.2	8.4%	
3-0850-05		8HSA-51 E 10'	164.3	150.0	9.5%	
3-0850-06		8HSA-51 F 12.5'	490.4	481.3	1.9%	
6-0850-07		8HSA-51 G 15'	503.6	495.6	1.6%	
6-0850-08		8HSA-51 H 17.5	524.8	450.9	16.4%	
6-0850-09		8HSA-51 I 20'	416.8	359,5	15.9%	
3-0850-10		8HSA-51 K 25'	287.0	246.1	16.6%	
3-0850-11		8HSA-51 L 27.5'	337.9	280.7	20.4%	
3-0850-12		8HSA-51 M 30'	276.2	213.9	29.1%	

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Other: Addressee (2)

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Report Date: July 26, 2006

Geomechanics Southwest Inc.

Client:

P.O. Box 6527

Albuquerque, NM 87197-

Albuquerque Levees Branden L Sanders

Project Name:

Attention:

Albuquerque, NM

Albuquerque

Project #: 6-519-004033

Work Order #: 32

Date Sampled: 06/27/2006 Sampled By: client

Sieve Analaysis (ASTM C117/C136)

Plasticity Index (ASTM D4318) Soil Classification (ASTM D2487)

Project Manager: Herman Garcia

SOILS / AGGREGATES

Soil Sample Location Class. L.L. P.I. #200 #100 #50 #40	Soil Class.	L.L. P.I.	#200	#100	#20	#40	#30	#30 #16 #10 #8	#10	8#	#4	1/4"	3/8"	1/2"	3/4'	<u>+</u>	1/4" 3/8" 1/2" 3/4' 1" 11/4"11/2" 2" 21/2" 3" 6" 12"	2".	2 1/2"	 3	12"	Lab 2" Number
8HSA-52 A 8'2.5' CL	ದ	30 13	58	58 68 84	84	06	95	86	86	88	100											3-0954-01
8HSA-52 C 5'	SP-SM	NV NP	5.0	თ	12	34	47	65	88	94	96		66	100								3-0954-02
8HSA-52 D 7 1/2'	SP	NV NP	2.3	2	18	37	55	77	86	87	93		86	100							v	6-0954-03
8HSA-52 E 10'	SP	NV NP	3.3	7	30	51	70	88	94	95	98		100								v	3-0954-04
8HSA-52 F 12 1/2'	SP	N VP	4.0	∞	17	33	49	99	75	11	98		92	86	100						v	5-0954-05
8HSA-52,G 15'	SP	NV NP 1.5 3	1.5	က	თ	21	36	28	89	70	78		88	91	91	100					v	5-0954-06

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Other: Addressee (2)

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Albuquerque, NM 87113
Tel 5058211801
Fax 5058217371



Geomechanics Southwest Inc.

P.O. Box 6527

Albuquerque, NM 87197-

Attn:

Branden L Sanders

Project Name:

Albuquerque Levees

Albuquerque Albuquerque, NM Report Date: July 26, 2006

Project #: 6-519-004033

Report #: 413

Work Order #: 32 Sampled By: client

Date Sampled: 06/27/2006

Project Manager: Herman Garcia

SOILS / AGGREGATES

Lab #	Color & Type of Material	Sample Source	Wet Weight (g)	Dry Weight (g)	Moisture (%)	Dry Density (pcf)
6-0954-01		8HSA-52 A & Z · 5	47.9	44.2	8.4%	
6-0954-02		8HSA-52 C 5'	141.8	135.7	4.5%	
6-0954-03		8HSA-52 D 7 1/2'	228.9	205.0	11.7%	
6-0954-04		8HSA-52 E 10'	324.7	277.8	16.9%	
6-0954-05		8HSA-52 F 12 1/2'	306.9	266.3	15.2%	
6-0954-06		8HSA-52 G 15'	384.9	337.7	14_0%	

Reviewed By:_

HG HONO

Distribution: Client 🗹

Email:

File: V

Supplier: 🗹

Other: Addressee (2)

AMEC Earth Environmental, Inc. 8519 Jefferson NE Albuquerque, NM 87113

Tel 5058211801 Fax 5058217371

amecReport Date: August 01, 2006

Geomechanics Southwest Inc.

Client:

87197-

Albuquerque, NM

P.O. Box 6527

Albuquerque Levees Branden L Sanders

Project Name: Attention:

Albuquerque, NM

Albuquerque

Project Manager: Herman Garcia

Project #: 6-519-004033

Work Order #: 33

Sampled By: CLIENT

Date Sampled: 06/27/2006

Sieve Analaysis (ASTM C117/C136) Plasticity Index (ASTM D4318)

Soil Classification (ASTM D2487) SOILS / AGGREGATES

Soil Sample Location Class.	Soil Class.	L.L. P.I. #200 #100 #50	#200	#100	#20	#40	#30	#16	#10	8#	#	1/4"	3/8"	1/2"	3/4	#	1/4" 3/8" 1/2" 3/4' 1" 1 1/4" 1 1/2" 2" 2 1/2" 3"	2" 2	1/2"	6" 12"		Lab Number
8HSA-53 A 0'	SM	NV NP	18	25	36	42	46	54	09	62	71		98	93	97	100						6-0955-01
8HSA-53 B 2 1/2'	SM	N NP	26	4	63	72	79	87	90	91	92		26	66	100						•	6-0955-02
8HSA-53 D 7 1/2'	SM	NV NP	30	45	99	78	86	93	96	96	98		66	100							•	6-0955-03
8HSA-53 E 10'	SM	NV NP	18	45	87	94	96	86	66	66	66		100								•	6-0955-04
8HSA-53 F 12 1/2'	SM	NV NP	16	61	66	100															w w	6-0955-05
8HSA-53 G 15'	SP-SM	NV NP	6.5	20	74	96	100														•	90-5560-9
8HSA-53.H 17 1/2'	SP-SM	NV NP	5.0	18	63	84	93	86	66	66	100										v	6-0955-07
8HSA-53·I 20'	SM	NV NP	23	65	79	82	85	91	93	94	97		66	66	100						Ū	6-0955-08
8HSA-53 J 22 1/2'	SP	NV NP	2.0	12	7.1	86	93	96	97	26	98		100								Ū	6-0322-03
8HSA-53 L 27 1/2'	SC-SM	24 7	15	22	38	54	70	86	91	95	95		26	100							•	6-0955-10
8HSA-53 M 30'	ML	N NP	54	85	89	91	94	26	86	86	100										Ψ	6-0955-11

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Other: Addressee (2)

Supplier: 🗸

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Albuquerque, NM 87113
Tel 5058211801
Fax 5058217371



Geomechanics Southwest Inc.

P.O. Box 6527

Albuquerque, NM 87197-

Attn:

Branden L Sanders

Project Name:

Albuquerque Levees

Albuquerque Albuquerque, NM

Project Manager: Herman Garcia

Report Date: August 01, 2006

Project #: 6-519-004033

Report #: 437

Work Order #: 33

Sampled By: CLIENT

Date Sampled: 06/27/2006

SOILS / AGGREGATES

Lab #	Color & Type of Material	Sample Source	Wet Weight (g)	Dry Weight (g)	Moisture (%)	Dry Density (pcf)
6-0955-01		8HSA-53 A 0'	285.6	278.8	2.4%	
6-0955-02		8HSA-53 B 2 1/2'	245.7	233.3	5.3%	
6-0955-03		8HSA-53 D 7 1/2'	272.1	259.7	4.8%	
6-0955-04		8HSA-53 E 10'	159.5	153.3	4.0%	
6-0955-05		8HSA-53 F 12 1/2'	230.9	228.6	1.0%	
6-0955-06		8HSA-53 G 15'	317.6	314.5	1.0%	
6-0955-07		8HSA-53 H 17 1/2'	297.8	271.9	9.5%	
6-0955-08		8HSA-53 I 20'	313.8	254.8	23.2%	
6-0955-09		8HSA-53 J 22 1/2'	356.5	291.7	22.2%	
6-0955-10		8HSA-53 L 27 1/2'	364.9	298.0	22.4%	
6-0955-11		8HSA-53 M 30'	246.5	198.0	24.5%	

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Distribution: Client: ✓

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File: 🗹

Supplier: Other: Addressee (2)

AMEC Earth Environmental, Inc. 8519 Jefferson NE

Albuquerque, NM 87113 Tel 5058211801 Fax 5058217371

Report Date: July 26, 2006

Geomechanics Southwest Inc.

Client:

87197-

Albuquerque, NM

P.O. Box 6527

Albuquerque Levees

Project Name: Attention:

Albuquerque, NM

Albuquerque

Project Manager: Herman Garcia

Branden L Sanders

Project #: 6-519-004033

Work Order #: 34

Sampled By: CLIENT

Date Sampled: 06/27/2006

Sieve Analaysis (ASTM C117/C136)

Plasticity Index (ASTM D4318) Soil Classification (ASTM D2487)

SOILS / AGGREGATES

Soil Sample Location Class. L.L. P.I. #200 #100 #50 #40 #30	Soil Class.	L.L. P.J.	#200	#100	#20	#40	#30	#16	#16 #10	8#	#	1/4"	3/8"	1/2"	3/4'	-	Lab 1/4" 3/8" 1/2" 3/4' 1" 11/4"11/2" 2" 21/2" 3" 6" 12" Number	2	2 1/2"	ب	 12"	Lab Number
8HSA-54 A 0'	SM	NV NP	20	35	59	67	74	82	85	86	88		06	92	100							6-0956-01
8HSA-54 B 2 1/2'	SC-SM	20 5	40	54	73	80	87	94	26	86	66		100									6-0956-02
8HSA-54 C 5'	SM	N NP	13	44	69	74	81	89	91	92	93		94	96	100							6-0956-03
8HSA-54 D 7 1/2'	SW	N VP	3.7	6	18	26	36	56	69	73	85		92	93	95	100						6-0956-04
8HSA-54 E 10'	SP	NV NP	3.9	9	7	21	36	59	73	9/	89		96	100								6-0956-05
8HSA-54 F 12 1/2'	SP	NV NP	1.0	2	30	46	61	83	92	93	96		66	100								6-0956-06
8HSA-54 G 15'	SP	N NP	4.5	24	82	91	95	66	66	100												6-0956-07

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Other: Addressee (2)

AMEC Earth .Environmental, Inc. 8519 Jefferson NE Albuquerque, NM 87113 Tel 5058211801 Fax 5058217371



Geomechanics Southwest Inc.

P.O. Box 6527

Albuquerque, NM 87197-

Report Date: July 26, 2006

Project #: 6-519-004033

Report #: 415

Work Order #: 34

Sampled By: CLIENT

Date Sampled: 06/27/2006

Attn:

Branden L Sanders

Project Name:

Albuquerque Levees

Albuquerque

Albuquerque, NM

Project Manager:

Herman Garcia

SOILS / AGGREGATES

Lab #	Color & Type of Material	Sample Source	Wet Weight (g)	Dry Weight (g)	Moisture (%)	Dry Density (pcf)
6-0956-01		8HSA-54 A 0'	362.3	355.9	1.8%	
6-0956-02		8HSA-54 B 2 1/2'	250.8	240.6	4.2%	
6-0956-03		8HSA-54 C 5'	299.9	286.7	4.6%	
6-0956-04		8HSA-54 D 7 1/2'	375.8	352.0	6.8%	
6-0956-05		8HSA-54 E 10'	378.5	331.7	14.1%	
6-0956-06		8HSA-54 F 12 1/2'	268.2	228.0	17.6%	
6-0956-07		8HSA-54 G 15'	177.5	145.2	22.2%	

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MMMer

Distribution: Client:

Email:

File: Supplier: Other: Addressee (2)

AMEC Earth Environmental, Inc. 8519 Jefferson NE Albuquerque, NM 87113

Tel 5058211801 Fax 5058217371

Geomechanics Southwest Inc.

Client:

P.O. Box 6527

Albuquerque, NM 87197-

Branden L. Sanders Attention:

Albuquerque Levees Project Name:

Albuquerque

Albuquerque, NM

Project Manager: Herman Garcia

SOILS / AGGREGATES

Project #: 6-519-004033 Date Sampled: 06/27/2006 Sampled By: CLIENT Work Order #: 35

amec

Report Date: August 01, 2006

Sieve Analaysis (ASTM C117/C136) Plasticity Index (ASTM D4318) Soil Classification (ASTM D2487)

Soil Sample Location Class.	Soil Class.	L.L. P.I. #200 #100 #50	#200	#100	#50	#40	#30	#16	#10	×	V#	17.	:010	<u>.</u>	3	3			;		į	Lab
						-		- 1	- 1	- 1	- 1	10	- 1			1 1 1/4 1 1/2 2" 2 1/2" 3"	7	Z11 Z	6	9	15	Number
8HSA-55 A 0'	SC-SM	23 4	43	92	82	87	8	93	94	94	95	0,	96	96	100							6-0957-01
8HSA-55 B 2 1/2'	SM	N N P	29	48	69	79	85	92	96	96	86	Ų,	99	100								6-0957-02
8HSA-55 C 5'	SC-SM	24 5	32	69	87	91	95	86	66	99	100											6-0957-03
8HSA-55 D 7 1/2'	SC	25 8	38	29	79	98	90	94	96	96	66	_	100									6.0957.04
8HSA-55 E 10'	SM	20 3	42	64	82	87	91	94	95	95	97	Ű,	98 1	100								6-0957-05
8HSA-55 F 12 1/2'	SC	24 8	28	47	65	71	74	78	62	80	82	ω	84	84	100							8, 1967
8HSA-55 G 15'	SM	NV NP	39	84	26	98	66	100														6.0957.07
8HSA-55 H 17 1/2'	SP-SM	N NP	4.9	6	19	29	33	54	61	63	72	w	81	84 9	90 100	0						6-0957-08
8HSA-55 20'	SM	NV NP	31	36	73	23	36	52	19	64	88	ω	85 8	89		0						6-0957-09
8HSA-55 K 25'	SP	NV NP	1.4	4	39	24	35	53	64	8 29	81	w	68	92 9	97 100	0						6-0957-10
8HSA-55 L 27 1/2'	SP	NV NP	1.2	က	7	22	35	09	74	3 22	84	O)	6 06	93 1(100							6-0957-11
8HSA-55 M 30'	SP	NV NP	0.4	_	2	13	25	90	99	69	77	ω	83 8	86 91	100	0						6-0957-12

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AMEC Earth Environmental, Inc.

8519 Jefferson NE Albuquerque, NM 87113 Tel 5058211801 Fax 5058217371



Geomechanics Southwest Inc.

P.O. Box 6527

Albuquerque, NM 87197-

Attn:

Branden L Sanders

Project Name:

Albuquerque Levees

Albuquerque Albuquerque, NM Report Date: August 01, 2006

Project #: 6-519-004033

Report #: 435

Work Order #: 35

Sampled By: CLIENT

Date Sampled: 06/27/2006

Project Manager: Herman Garcia

SOILS / AGGREGATES

Lab#	Color & Type of Material	Sample Source	Wet Weight (g)	Dry Weight (g)	Moisture (%)	Dry Densit (pcf)
6-0957-01	Color & Type of material	8HSA-55 A 0'	224.0	219.9	1.9%	(601)
6-0957-01		8HSA-55 B 2 1/2'	321.4	295.7	8.7%	
3-0957-03		8HSA-55 C 5'	106.7	93.7	13.9%	
6-0957-04		8HSA-55 D 7 1/2'	186.8	173.9	7.4%	
S-0957 - 05		8HSA-55 E 10'	167.7	155.1	8.1%	
6-0957-06		8HSA-55 F 12 1/2'	63.7	60.9	4.6%	
S-0957-07		8HSA-55 G 15'	112.0	103.3	8.4%	
5-0957-08		8HSA-55 H 17 1/2'	259.7	237.8	9.2%	
6-0957-09		8HSA-55 20'	403.5	360.1	12.1%	
6-0957-10		8HSA-55 K 25'	432.3	383.5	12.7%	
S-0957 - 11		8HSA-55 L 27 1/2'	157.8	138.0	14.3%	
6-0957-12		8HSA-55 M 30'	436.5	389.1	12.2%	

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AMEC Earth .Environmental, Inc. 8519 Jefferson NE

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Albuquerque, NM 87113

Same

Report Date: July 26, 2006

Geomechanics Southwest Inc.

Client:

87197-

Albuquerque, NM

P.O. Box 6527

Project #: 6-519-004033

Work Order #: 36

Date Sampled: 06/27/2006 Sampled By: CLIENT

Sieve Analaysis (ASTM C117/C136) Plasticity Index (ASTM D4318)

Soil Classification (ASTM D2487)

Project Manager: Herman Garcia

Albuquerque Levees

Project Name: Attention:

Albuquerque

Albuquerque, NM

Branden L Sanders

SOILS / AGGREGATES

Soil Sample Location Class. L.L. P.I. #200 #100 #50 #40 #30	Soil Class.	L.L. P.I.	#200	#100	#20	#40	#30	#16	#10	8#	#	1/4"	8/8	1/2"	3/4.	÷	1/4" 3/8" 1/2" 3/4' 1" 11/4"11/2" 2" 21/2" 3" 6" 12"	2	2 1/2"	 .9	12	Lab Number
8HSA-56 A 0'	SM	NV NP	18	46	84	96	94	86	66	66	100											6-0958-01
8HSA-56 B 2 1/2'	SM	NV NP	35	22	80	86	9	95	97	46	98		100									8-0058-02
8HSA-56 C 5'	SP-SM	N VP	7.4	17	27	34	39	45	20	51	90		74	81	93	93	100					3-0058 03
8HSA-56 D 7 1/2'	SP-SC	23 9	11	19	28	37	47	64	72	73	78		83	85		100						00-00-00-00-00-00-00-00-00-00-00-00-00-
8HSA-56 E 10'	GР	NV NP	0.8	-	2	4	7	16	-7269	29	47		99	73	79	100						0-0900-04 5-0958-05
8HSA-56 F 12 1/2'	SP	NV NP	1.7	က	10	19	34	90	72	74	85		92	93	96	100						3-0958-06
8HSA-56 G 15'	SP	NV NP	1.6	4	11	20	30	47	22	29	72		88	94	100							6-0958-07

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Albuquerque, NM 87113
Tel 5058211801
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Geomechanics Southwest Inc.

P.O. Box 6527

Albuquerque, NM 87197-

Project #: 6-519-004033

Report Date: July 26, 2006

Report #: 416

Work Order #: 36

Sampled By: CLIENT

Date Sampled: 06/27/2006

Attn:

Branden L Sanders

Albuquerque Levees Project Name:

Albuquerque Albuquerque, NM

Project Manager:

Herman Garcia

SOILS / AGGREGATES

Lab #	Color & Type of Material	Sample Source	Wet Weight (g)	Dry Weight (g)	Moisture (%)	Dry Density (pcf)
6-0958-01		8HSA-56 A 0'	434.5	428.4	1.4%	
6-0958-02		8HSA-56 B 2 1/2'	58.0	55.9	3.8%	
6-0958-03		8HSA-56 C 5'	417.6	409.8	1.9%	
6-0958-04		8HSA-56 D 7 1/2'	158.6	139.0	14.1%	
6-0958-05		8HSA-56 E 10'	271.7	252.9	7.4%	
6-0958-06		8HSA-56 F 12 1/2'	388.0	331.1	17.2%	
6-0958-07		8HSA-56 G 15'	310.9	275.5	12.8%	

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AMEC Earth Environmental, Inc. 8519 Jefferson NE Albuquerque, NM 87113

Tel 5058211801 Fax 5058217371

Report Date: August 01, 2006

Geomechanics Southwest Inc. P.O. Box 6527

Client:

Albuquerque, NM 87197-

Branden L Sanders Attention:

Albuquerque Levees Project Name:

Albuquerque, NM Albuquerque

Project Manager: Herman Garcia

SOILS / AGGREGATES

Project #: 6-519-004033 Date Sampled: 06/27/2006 Sampled By: CLIENT Work Order #: 37

Sieve Analaysis (ASTM C117/C136) Plasticity Index (ASTM D4318) Soil Classification (ASTM D2487)

Sample Location	Soil Class.	L.L. P.I.	#200	# <mark>20</mark> 0 #100	#20	#40	#30	#16	#10	8#	#	1/4" 3/8"		1/2"	3/4'	<u>†</u>	1" 11/4"11/2" 2" 21/2" 3"	1/2	2" 2	112"	6"	12"	Lab Number
8HSA-57 A 0'	CL-ML	24 6	29	85	93	96	86	66	100														6-0959-01
8HSA-57 B 2 1/2'	SM	N NP	32	47	70	79	98	91	93	93	94		95	92	26	100						v	3-0959-02
8HSA-57 C 5'	SM	N N P	37	56	78	87	92	26	86	98	66		100									w w	6-0959-03
8HSA-57 D 7 1/2'	SM	N N P	41	61	82	89	93	95	96	96	97		26	26	100							w	5-0959-04
8HSA-57 E 10'	ML	19 2	58	82	93	96	98	100														U	6-0959-05
8HSA-57 F 12 1/2'	SM	N NP	49	72	90	94	97	66	100													v	90-6560-9
8HSA-57 G 15'	SM	NV NP	34	22	85	92	96	86	86	66	66		66	66	100							· ·	2-0929-07
8HSA-57 H 17 1/2'	SP	NV NP	2.2	9	20	35	20	71	81	83	90		96	96	26	100						w	80-6560-9
8HSA-57 I 20'	SP	NV NP	3.2	ω	23	32	46	89	78	81	92		100									Ψ	6-0626-09
8HSA-57 J 22 1/2'	SP-SM	N N N	4.8	10	25	37	49	29	92	78	86		95	26	100							Ψ	6-0959-10
8HSA-57 K 25'	SP	N NP	1.6	4	15	28	45	29	77	79	88		86	100								Ψ	6-0959-11
8HSA-57 L 27 1/2'	SP	NV NP	0.7	2	10	25	43	29	79	82	90		96	66	100							y	6-0959-12
8HSA-57 M 30'	SP	NV NP	1.9	4	20	34	51	72	80	82	88		93	92	96	100						v	6-0959-13

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8519 Jefferson NE Albuquerque, NM 87113 Tel 5058211801 Fax 5058217371



Geomechanics Southwest Inc.

P.O. Box 6527

Albuquerque, NM 87197-

Attn:

Branden L Sanders

Project Name:

Albuquerque Levees

Albuquerque

Project Manager: Herman Garcia

Albuquerque, NM

Report Date: August 01, 2006

Project #: 6-519-004033

Report #: 436 Work Order #: 37

Sampled By: CLIENT

Date Sampled: 06/27/2006

Lab #	Color & Type of Material	Sample Source	Wet Weight (g)	Dry Weight (g)	Moisture (%)	Dry Density (pcf)
6-0959-01		8HSA-57 A 0'	186.0	181.0	2.8%	
6-0959-02		8HSA-57 B 2 1/2'	395.3	379.0	4.3%	
6-0959-03		8HSA-57 C 5'	306.2	285.0	7.4%	
6-0959-04		8HSA-57 D 7 1/2'	320.3	299.1	7.1%	
6-0959-05		8HSA-57 E 10'	133.1	123.8	7.5%	
6-0959-06		8HSA-57 F 12 1/2'	139.9	130.2	7.5%	
6-0959-07		8HSA-57 G 15'	434.9	407.5	6.7%	
6-0959-08		8HSA-57 H 17 1/2'	605.5	519.8	16.5%	
6-0959-09		8HSA-57 I 20'	166.3	142.7	16.5%	
6-0959-10		8HSA-57 J 22 1/2'	643.4	571.3	12.6%	
6-0959-11		8HSA-57 K 25'	463.7	398.3	16.4%	
6-0959-12		8HSA-57 L 27 1/2'	353.4	302.7	16.7%	
6-0959-13		8HSA-57 M 30'	332.0	287.5	15.5%	

SOILS / AGGREGATES

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Other: Addressee (2)

AMEC Earth _Environmental, Inc. 8519 Jefferson NE Albuquerque, NM 87113

Tel 5058211801 Fax 5058217371

Report Date: August 01, 2006

Geomechanics Southwest Inc.

Client:

87197-

Albuquerque, NM

P.O. Box 6527

Albuquerque Levees Branden L Sanders

Project Name:

Attention:

Albuquerque, NM

Albuquerque

Project Manager: Herman Garcia

Project #: 6-519-004033

Work Order #: 38

Date Sampled: 06/27/2006 Sampled By: CLIENT

Sieve Analaysis (ASTM C117/C136)

Plasticity Index (ASTM D4318) Soil Classification (ASTM D2487)

SOILS / AGGREGATES

Lab Number	6-0960-01	6-0960-02	6-0960-03	6-0960-04	9-0960-02	90-0960-9	9-0960-9	90-0960-9	60-0960-9	6-0960-10	6-0960-11	6-0960-12	6-0960-13
12"													
9													
2 1/2"													
7.													
1" 11/4"11/2" 2" 21/2"													
										100		100	100
3/4'					100					86	100	68	83
1/2"					26			100		98	87	51	8
3/8"			100		94			98	100	98	84	47	11
1/4"													
#	100		66		93		100	95	26	86	72	32	63
8#	66	100	98	100	95		66	95	95	85	09	20	20
#10	66	66	98	66	95	100	66	91	91	85	22	18	84
#16	86	86	26	66	91	66	6	85	81	82	44	10	38
#30	92	96	94	96	06	86	94	74	59	89	27	2	23
#40	91	92	06	89	87	96	84	62	43	57	18	n	14
#20	83	81	80	74	81	91	90	40	25	48	7	2	∞
#100	99	22	53	46	99	9/	18	10	7	18	က	2	က
#200	46	37	32	26	46	53	5.6	3.7	3.1	2.9	<u></u>	1.3	7.5
L.L. P.I. #2 <mark>00</mark> #100	18 2	N NP	N N	N NP	N N P	N NP	NV NP	NV NP	NV NP	NV NP	NV NP	N NP	N VN
Soil Class.	SM	SM	SM	SM	SM	ML	SP-SM	SP	SP	SP	SP	СР	g.
Soil Sample Location Class.	8HSA-58 A 0'	8HSA-58 B 2 1/2'	8HSA-58 C 5'	8HSA-58 D 7 1/2'	8HSA-58 E 10'	8HSA-58 F 12 1/2'	8HSA-58 G,15'	8HSA-58 H 17 1/2'	8HSA-58 I.20'	8HSA-58 J 22 1/0	8HSA-58 K 25'	8HSA-58 L 27 1/2'	8HSA-58 M 30'

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Other: Addressee (2)

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Geomechanics Southwest Inc.

P.O. Box 6527

Albuquerque, NM 87197-

Attn:

Branden L Sanders

Project Name:

Albuquerque Levees

Albuquerque Albuquerque, NM Report Date: August 01, 2006

Project #: 6-519-004033

Report #: 438

Work Order #: 38

Sampled By: CLIENT

Date Sampled: 06/27/2006

Project Manager:

Herman Garcia

SOILS / AGGREGATES

Lab #	Color & Type of Material	Sample Source	Wet Weight (g)	Dry Weight (g)	Moisture (%)	Dry Density (pcf)
6-0960-01		8HSA-58 A 0'	150.0	146.0	2.7%	
6-0960-02		8HSA-58 B 2 1/2'	150.0	144.3	4.0%	
6-0960-03		8HSA-58 C 5'	150.0	142.5	5.3%	
6-0960-04		8HSA-58 D 7 1/2'	150.0	143.0	4.9%	
6-0960-05		8HSA-58 E 10'	150.0	142.0	5.6%	
6-0960-06		8HSA-58 F 12 1/2'	200.0	184.0	8.7%	
6-0960-07		8HSA-58 G 15'	200.0	195.1	2.5%	
6-0960-08		8HSA-58 H 17 1/2'	200.0	177.9	12,4%	
3-0960-09		8HSA-58 I 20'	200.0	174.9	14.4%	
6-0960-10		8HSA-58 J 22 1/0'	200.0	173.9	15.0%	
6-0960-11		8HSA-58 K 25'	200.0	182.8	9.4%	
5-0960 - 12		8HSA-58 L 27 1/2'	200.0	191.8	4.3%	
6-0960-13		8HSA-58 M 30'	200.0	184.1	8.6%	

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AMEC Earth _Environmental, Inc. 8519 Jefferson NE Albuquerque, NM 87113 Tel 5058211801

Fax 5058217371

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Report Date: August 01, 2006

Geomechanics Southwest Inc.

Client:

P.O. Box 6527

Albuquerque, NM 87197-

Albuquerque Levees Branden L Sanders

Project Name:

Attention:

Albuquerque, NM

Albuquerque

Project Manager: Herman Garcia

Project #: 6-519-004033

Work Order #: 39

Sampled By: CLIENT

Date Sampled: 06/27/2006

Sieve Analaysis (ASTM C117/C136)

Plasticity Index (ASTM D4318) Soil Classification (ASTM D2487)

SOILS / AGGREGATES

ML NV NP 68 82 92 10 3 96 97 98 100 3 4 6-0961-02 6-0961-02 ML NV NP 73 64 91 95 96 97 98 100 3 3 3 3 3 3 3 3 3 3 3 4 4 4 4 90 <th>Soil Sample Location Class.</th> <th>s. L.L. P.I. #200 #100</th> <th>#200</th> <th>0 #100</th> <th>05# (</th> <th>#40</th> <th>#30</th> <th>#16</th> <th>#10</th> <th>8#</th> <th>4</th> <th>1/4"</th> <th>3/8"</th> <th>1/2"</th> <th>3/4"</th> <th>-</th> <th>1" 11/4"11/2" 2" 21/2" 3"</th> <th>2,</th> <th>2 1/2"</th> <th>÷,</th> <th>.9</th> <th>12"</th> <th>Lab Number</th>	Soil Sample Location Class.	s. L.L. P.I. #200 #100	#200	0 #100	05# (#40	#30	#16	#10	8#	4	1/4"	3/8"	1/2"	3/4"	-	1" 11/4"11/2" 2" 21/2" 3"	2,	2 1/2"	÷,	.9	12"	Lab Number
N.V. NF 73 85 91 93 95 96 97 98 100 3	M		68		92																		6-0961-01
25 6 81 95 97 99 100 3 3 3 83 83 84 84 84 84 100 3 84 100 3 84 100 3 84 100 3 84 100 3 84 100 3 84 100 3 84 100 3 84 100 3 84 100 3 84 100 3 84 100 3 84 100 3 84 100 3 84 100 3 84 100 3 84 100 3 84 84 100 3 84 84 100 3 84 <td>ML</td> <td></td> <td>73</td> <td></td> <td></td> <td></td> <td>95</td> <td>96</td> <td>96</td> <td>26</td> <td>98</td> <td></td> <td>100</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>6-0961-02</td>	ML		73				95	96	96	26	98		100										6-0961-02
26 7 64 81 95 97 99 100 84 84 84 84 100 84 84 100 84	CL-N	. 25	61	79			97	66	100														6-0961-03
27 6 4 75 81 83 83 84 84 84 84 100 NV NP 28 51 83 95 95 99 99 100 3 4 100 3 4 100 3 4 100 3 4 100 3 4 100 3 4 100 3 4 100 3 4 100 3 4 100 3 4 100 3 4 100 3 4 100 3 4 100 3 4 100 3 4 <	CL-M		64		91			66	100														6-0961-04
NV NP 14 34 66 77 84 93 96 99 100 3 NV NP 1.4 34 66 77 84 93 96 98 100 3 <	CL-N	27	9				83	83	83	83	84		84	84	84	100							6-0961-05
NV NP 14 34 66 77 84 93 96 98 100 3.7	SM	N	28		83		93	96	26	86	66		66	100									6-0961-06
NV NP 1.4 3 14 27 36 47 51 52 55 57 57 57 100 NV NP 1.7 42 59 77 84 84 86 57 57 100 NV NP 1.7 42 59 77 84 84 86 92 100 70 NV NP 1.0 2 15 28 43 64 73 75 83 89 92 100 NV NP 1.0 2 10 22 36 56 73 82 87 100 NV NP 1.6 5 25 34 43 64 80 82 90 100	SM	⋛	14				84	93	95	96	98		100										6-0961-07
NV NP 1.4 3 14 27 36 47 51 52 55 57 57 57 100 NV NP 1.7 42 59 70 77 82 84 84 86 89 91 100 NV NP 1.7 5 15 28 43 64 73 75 83 89 92 100 NV NP 1.0 2 10 22 36 56 63 65 73 82 87 100 NV NP 1.6 5 25 25 34 43 64 80 82 90 94 96 100	SP	Ž	2.0		32		78	90	95	95	98		100										6-0961-08
NV NP 17 42 59 70 77 82 84 86 89 91 100 NV NP 1.7 5 15 28 43 64 73 75 83 89 92 100 NV NP 1.0 2 10 22 36 56 63 65 73 82 87 100 NV NP 1.6 5 25 34 43 64 80 82 90 94 96 100	SP	Š	4.1		14		36	47	51	52	55		25	22	22	25	100						6-0961-09
NV NP 1.7 5 15 28 43 64 73 75 83 89 92 100 NV NP 1.6 5 25 34 43 64 80 82 90 94 96 100	SM	Ž	17	42			77	82	84	84	98		83	91	100								6-0961-10
NV NP 1.6 5 25 34 43 64 80 82 90 94 96 100	SP	≥	1.7		15		43	64	73	75	83		83	92	100								6-0961-11
NV NP 1.6 5 25 34 43 64 80 82 90 94 96 100	SP	Ž	1.0	2	10		36	56	63	65	73		82	87	100								6-0961-12
	SP	Š	1.6		25			64	80	82	90		94	96	100								6-0961-13

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Geomechanics Southwest Inc.

P.O. Box 6527

Albuquerque, NM 87197-

Attn:

Branden L Sanders

Project Name:

Albuquerque Levees Albuquerque

Albuquerque, NM

Project Manager:

Herman Garcia

Report Date: August 01, 2006

Project #: 6-519-004033

Report #: 439

Work Order #: 39

Sampled By: CLIENT

Date Sampled: 06/27/2006

SOILS / AGGREGATES

Lab #	Color & Type of Material	Sample Source	Wet Weight (g)	Dry Weight (g)	Moisture (%)	Dry Density (pcf)
6-0961-01		8HSA-60 A 0'	200.0	193.0	3.6%	
6-0961-02		8HSA-60 B 2 1/2'	200.0	185.7	7.7%	
6-0961-03		8HSA-60 C 5'	200.0	188.7	6.0%	
6-0961-04		8HSA-60 D 7 1/2'	200.0	186.6	7.2%	
6-0961-05		8HSA-60 E 10'	200.0	189.6	5.5%	
6-0961-06		8HSA-60 F 12 1/2'	200.0	195.2	2.5%	
6-0961-07		8HSA-60 G 15'	200.0	196.4	1.8%	
6-0961-08		8HSA-60 H 17 1/2'	300.0	296.3	1.2%	
6-0961-09		8HSA-60 I 20'	200.0	182.0	9.9%	
6-0961-10		8HSA-60 J 22 1/2'	200.0	166.8	19.9%	
6-0961-11		8HSA-60 K 25'	200.0	173.4	15.3%	
6-0961-12		8HSA-60 L 27 1/2'	200.0	173.9	15.0%	
6-0961-13		8HSA-60 M 30'	200.0	177.6	12.6%	

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amec

Report Date: August 01, 2006

Geomechanics Southwest Inc.

Client:

87197-

Albuquerque, NM

P.O. Box 6527

Albuquerque Levees

Project Name:

Attention:

Albuquerque, NM

Albuquerque

Branden L Sanders

Project #: 6-519-004033

Sampled By: CLIENT Work Order #: 40

Date Sampled: 06/27/2006

Sieve Analaysis (ASTM C117/C136) Plasticity Index (ASTM D4318) Soil Classification (ASTM D2487)

> SOILS / AGGREGATES Project Manager: Herman Garcia

6-0962-03 Lab Number 6-0962-02 6-0962-05 6-0962-01 6-0962-04 12" وة 5 2 1/2" 5 1" 11/4" 11/2" 3/4 1/2" 3/8" 100 100 1/4" 100 9 # 66 98 66 95 95 97 8 #10 66 95 93 8 #16 100 94 66 89 8 #30 99 88 83 59 #40 98 40 #200 #100 #50 25 96 96 62 93 56 S 69 L.L. P.I. N N N 29 12 NV NP N NP ω 27 Class. Soil ᄗ SM 뒬 ರ Sample Location 8HSA-61 B 2 1/2' 8HSA-61 D 7 1/2' 8HSA-61 E 10' 8HSA-61 C 5' 8HSA-61 A 0'

6-0962-06

100 100

6 86

85

82

79 88

72 82

25

3

9.2

N NP

SW-SM

8HSA-61 F 12 1/2'

94

83

52 52

25 37

7

dN ∨N

SP

8HSA-61 G 15'

66 94

6-0962-07

Reviewed By:

File: Distribution: Client: ▼
Email:

Supplier:

Other: Addressee (2)

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Tel 5058211801
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Geomechanics Southwest Inc.

P.O. Box 6527

Albuquerque, NM 87197-

Report Date: August 01, 2006

Project #: 6-519-004033

Report #: 440

Work Order #: 40

Sampled By: CLIENT

Date Sampled: 06/27/2006

Attn:

Branden L Sanders

Albuquerque Levees

Albuquerque

Albuquerque, NM

Project Manager:

Project Name:

Herman Garcia

SOILS / AGGREGATES

Lab#	Color & Type of Material	Sample Source	Wet Weight (g)	Dry Weight (g)	Moisture (%)	Dry Density (pcf)
6-0962-01		8HSA-61 A 0'	135.8	131.8	3.0%	
6-0962-02		8HSA-61 B 2 1/2'	249.2	182.1	36.8%	
6-0962-03		8HSA-61 C 5'	63.2	59.8	5.7%	
6-0962-04		8HSA-61 D 7 1/2'	193.8	184.5	5.0%	
6-0962-05		8HSA-61 E 10'	392.7	361.1	8.8%	
6-0962-06		8HSA-61 F 12 1/2'	350.9	303.9	15.5%	
6-0962-07		8HSA-61 G 15'	316.0	269.1	17.4%	

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Report Date: August 01, 2006

Geomechanics Southwest Inc.

Client:

P.O. Box 6527

Albuquerque, NM 87197-

Albuquerque Levees Branden L Sanders

Project Name: Attention:

Albuquerque, NM

Albuquerque

Project #: 6-519-004033

Date Sampled: 06/27/2006 Sampled By: CLIENT Work Order #: 41

Sieve Analaysis (ASTM C117/C136) Plasticity Index (ASTM D4318) Soil Classification (ASTM D2487)

Project Manager: Herman Garcia

SOILS / AGGREGATES

Soil Sample Location Class. L.L. P.I. #200 #100 #50 #40	Soil Class.	L.L. P.J.	#20(0 #100	#20	#40	#30	#16	#10	#8#	#4	1/4" 3	8/		3/4	ŧ-	1/4" 3/8" 1/2" 3/4' 1" 11/4"11/2" 2" 21/2" 3" 6" 12"	5	2 1/2"	. 9	12"	Lab Number
8HSA-62 A 0'	CL-ML	22 7	53	99	82	88	94	88	66	99	100											6-0963-01
8HSA-62 B 2 1/2'	SM	N VP	9	56	11	86	91	96	26	26	98		. 86	100								6-0963-02
8HSA-62 C 5'	SP	N NP	2.5	19	20	84	91	96	98	86	66		8									6-0963-03
8HSA-62 D 7 1/2'	SP	NV NP	1.8	7	32	62	88	66	66	100												6-0963-04
8HSA-62 E 10'	SP	N NP	<u>-</u>	ო	27	61	85	94	96	96	98		66	66	100							6-0963-05
8HSA-62 F 12 1/2'	SP	N NP	1.2	က	10	19	20	51	65	89	79		98	89	93	93	100					90-6-0963
8HSA-62 G 15'	SP	N NP	1.2	ო	13	27	44	69	81	83	91		26	98	100							6-0963-07

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Attn:

Branden L Sanders

Project Name:

Albuquerque Levees

Albuquerque Albuquerque, NM

Project Manager:

Herman Garcia

Report Date: August 01, 2006

Project #: 6-519-004033

Report #: 441

Work Order #: 41

Sampled By: CLIENT

Date Sampled: 06/27/2006

SOILS / AGGREGATES

Lab #	Color & Type of Material	Sample Source	Wet Weight (g)	Dry Weight (g)	Moisture (%)	Dry Densit (pcf)
6-0963-01		8HSA-62 A 0'	229.1	222.4	3.0%	
6-0963-02		8HSA-62 B 2 1/2'	99.0	95.7	3.4%	
6-0963-03		8HSA-62 C 5'	526.2	522.2	0.8%	
6-0963-04		8HSA-62 D 7 1/2'	544.8	537.8	1.3%	
6-0963-05		8HSA-62 E 10'	723.7	630.6	14.8%	
6-0963-06		8HSA-62 F 12 1/2'	605.0	535.7	12.9%	
6-0963-07		8HSA-62 G 15'	678.3	580.7	16.8%	

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File: Supplier: Other: Addressee (2)

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Report Date: August 21, 2006

Geomechanics Southwest Inc.

Client:

87197-

Albuquerque, NM

P.O. Box 6527

Project #: 6-519-004033

Work Order #: 42

Date Sampled: 06/27/2006 Sampled By: CLIENT

Sieve Analaysis (ASTM C117/C136) Plasticity Index (ASTM D4318)

Soil Classification (ASTM D2487)

Project Manager: Herman Garcia

Albuquerque, NM

Albuquerque

Albuquerque Levees

Project Name:

Attention:

Branden L Sanders

SOILS / AGGREGATES

6-0964-03 6-0964-05 6-0964-10 6-0964-13 6-0964-15 6-0964-16 6-0964-01 6-0964-02 6-0964-04 6-0964-06 6-0964-08 6-0964-09 6-0964-11 6-0964-14 6-0964-07 6-0964-17 Number 12" 6 ä 2 1/2" 5 1" 11/4" 11/2" 100 8 3/4 8 8 8 9 8 9 8 9 90 1/2" 8 8 88 95 92 95 92 3/8" 9 90 9 8 87 8 92 93 93 8 93 9 6 9 1/4" **4** 99 88 66 66 66 86 84 82 8 85 82 82 83 8 8 **8**# 86 86 66 97 8 8 8 80 2 78 6/ #10 8 95 66 73 73 73 7 74 73 74 73 7 #16 96 97 86 83 69 8 8 68 8 63 89 6 #30 8 95 85 55 8 86 52 8 22 5 47 #40 85 92 99 97 42 5 42 88 8 99 6 #20 8 78 8 5 26 39 23 39 16 2 ဓ #200 #100 20 29 52 6 2 9 12 Ξ 7.6 5.9 7.9 8.7 8.9 8.7 9 4.9 21 84 7 N N L.L. P.I. N NP Ŗ 身 30 13 N NP N NP N NP N NP NV NP N NP N NP N N ≥ ⋛ ⋛ SP-SM SP-SM SP-SM SW-SM SP-SM Soil Class. SP-SM SP-SM SP-SM SP-SM SP-SM S SC ΣS S Sample Location 8HSA-63 F 12 1/2' 8HSA-63 H 17 1/2' 8HSA-63 N 32 1/2' 8HSA-63 P 37 1/2' 8HSA-63 J 22 1/2' 8HSA-63 D 7 1/2' (2. 8HSA-63 K 25' 8HSA-63 M 30' 8HSA-63 B 2 1/2' 8HSA-63 E 10' 8HSA-63 G 15' 8HSA-63 O 35' 8HSA-63 Q 40' 8HSA-63 A 0' 8HSA-63 C 5' 8HSA-63 I 20'

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Other: Addressee (2) Supplier:

> AMEC Earth .Environmental, Inc. 8519 Jefferson NE

Albuquerque, NM 87113 Tel 5058211801 Fax 5058217371

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Report Date: August 21, 2006

Geomechanics Southwest Inc.

Client:

87197-

Albuquerque, NM

P.O. Box 6527

Albuquerque Levees

Project Name: Attention:

Albuquerque, NM

Albuquerque

Project Manager: Herman Garcia

Branden L Sanders

Project #: 6-519-004033

Work Order #: 42

Sampled By: CLIENT

Date Sampled: 06/27/2006

Sieve Analaysis (ASTM C117/C136)

Plasticity Index (ASTM D4318) Soil Classification (ASTM D2487)

SOILS / AGGREGATES

Lab Number	6-0964-18	6-0964-19
12"		
ë.		
2 1/2"		
2		
3/4' 1" 1 1/4" 1 1/2" 2" 2 1/2" 3" 6" 12"		
*		
3/4'	100	93 100
1/2"	91 94 100	93
3/8"	91	91
#4 1/4"		
#	85	83
8#	81	11
#10	7.1	72
#16	29	29
#30	47	45
#40	37	24 39 45
#20	24	24
#100	6	9
#200	4.9 9 24 37 47	5.1 6
L.L. P.I. #200		SP-SM NV NP
Soil Class.	SP-SM NV NP	SP-SM
Sample Location	8HSA-63 R 42 1/2'	8HSA-63 S 45'

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 File:
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 Supplier:
 ✓
 Other:
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Geomechanics Southwest Inc.

P.O. Box 6527

Albuquerque, NM 87197-

Attn:

Branden L Sanders

Project Name:

Albuquerque Levees

Albuquerque Albuquerque, NM

Project Manager: Herman Garcia

Report Date: August 21, 2006

Project #: 6-519-004033

Report #: 460

Work Order #: 42

Sampled By: CLIENT

Date Sampled: 06/27/2006

SOILS / AGGREGATES

Lab #	Color & Type of Material	Sample Source	Wet Weight (g)	Dry Weight (g)	Moisture (%)	Dry Densit (pcf)
6-0964-01		8HSA-63 A 0'	355.8	350.3	1.6%	
6-0964-02		8HSA-63 B 2 1/2'	611.6	601.0	1.8%	
6-0964-03		8HSA-63 C 5'	467.0	456.5	2.3%	
6-0964-04		8HSA-63 D 7 1/2'	575.3	566.0	1.6%	
6-0964-05		8HSA-63 E 10'	462.3	437.7	5.6%	
6-0964-06		8HSA-63 F 12 1/2'	456.4	450.8	1.2%	
6-0964-07		8HSA-63 G 15'	734.3	728.1	0.9%	
6-0964-08		8HSA-63 H 17 1/2'	318.4	315.1	1.0%	
6-0964-09		8HSA-63 20'	563.6	500.1	12.7%	
6-0964-10		8HSA-63 J 22 1/2'	563.6	500.1	12.7%	
6-0964-11	275.	8HSA-63 K 25'	563.6	500.1	12.7%	
6-0964-13	2***	8HSA-63 M 30'	599.8	588.4	1.9%	
6-0964-14		8HSA-63 N 32 1/2'	612.7	594.2	3.1%	
6-0964-15		8HSA-63 O 35'	610.9	598.4	2.1%	
6-0964-16		8HSA-63 P 37 1/2'	497.3	487.9	1.9%	
6-0964-17		8HSA-63 Q 40'	610.9	593.3	3.0%	
6-0964-18		8HSA-63 R 42 1/2'	655.3	642.9	1.9%	
6-0964-19		8HSA-63 S 45'	537.4	527.3	1.9%	

Reviewed By:

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Report Date: August 07, 2006

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Albuquerque, NM

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Albuquerque Levees Branden L Sanders

Project Name:

Attention:

Albuquerque, NM

Albuquerque

Project #: 6-519-004033

Work Order #: 43

Date Sampled: 06/27/2006 Sampled By: CLIENT

Sieve Analaysis (ASTM C117/C136) Plasticity Index (ASTM D4318) Soil Classification (ASTM D2487)

Project Manager: Herman Garcia

SOILS / AGGREGATES

SR358-02 SR358-03 SR358-04 SR358-05 SR358-06 SR358-01 SR358-07 Lab Number 12" .9 į 2 1/2" 5 1" 11/4" 11/2" 100 100 3/4 89 8 1/2" 100 9 100 57 87 3/8" 93 66 29 83 83 87 1/4" # 48 73 79 80 85 95 99 4 9 71 73 8 8# #10 66 92 6 57 69 2 8 #16 26 46 9/ 86 8 61 61 #30 9 82 9 30 43 47 #40 18 35 86 21 31 44 #20 68 52 5 4 20 19 26 #200 #100 3.8 3.7 3.8 3.4 L.L. P.I. NV NP NV NP NV NP N NP NV NP NV NP NV NP SP-SM Class. Soil SP Э SP SP g SP Sample Location 8HSA-64 F 12 1/2' 8HSA-64 D 7 1/2' 8HSA-64 B 2 1/2' 8HSA-64 E 10' 8HSA-64 G 15' 8HSA-64 C 5' 8HSA-64 A 0'

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Attn:

Branden L Sanders

Project Name:

Albuquerque Levees

Albuquerque

Albuquerque, NM

Report Date: August 07, 2006

Project #: 6-519-004033

Report #: 444

Work Order #: 43

Sampled By: CLIENT

Date Sampled: 06/27/2006

Project Manager:

Herman Garcia

SOILS / AGGREGATES

Lab #	Color & Type of Material	Sample Source	Wet Weight (g)	Dry Weight (g)	Moisture (%)	Dry Density (pcf)
SR358-01		8HSA-64 A 0'	258.5	254.9	1.4%	
SR358-02		8HSA-64 B 2 1/2'	286.0	281.9	1.5%	
SR358-03		8HSA-64 C 5'	262.8	256.0	2.7%	
SR358-04		8HSA-64 D 7 1/2'	276.8	246.8	12.2%	
SR358-05		8HSA-64 E 10'	279.9	241.2	16.0%	
SR358-06		8HSA-64 F 12 1/2'	282.5	258.9	9.1%	
SR358-07		8HSA-64 G 15'	285.6	259.0	10.3%	

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Supplier: Other: Addressee (2)

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Report Date: August 07, 2006

Geomechanics Southwest Inc.

Client:

87197-

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P.O. Box 6527

Albuquerque Levees

Project Name:

Attention:

Albuquerque, NM

Albuquerque

Branden L Sanders

Project #: 6-519-004033

Sampled By: CLIENT Work Order #: 44

Date Sampled: 06/27/2006

Sieve Analaysis (ASTM C117/C136) Plasticity Index (ASTM D4318) Soil Classification (ASTM D2487)

Project Manager: Herman Garcia

SOILS / AGGREGATES

Soil Sample Location Class.	L.L. P.I.	#200	#200 #100 #50	#20	#40	#30	#16	#10	80	#4	1/4" 3	3/8	1/2"	3/4"	1" 1	1" 11/4"11/2" 2" 21/2" 3"	 2 112"	3.	9	15"	Lab Number
	N VP	19	19	51	57	62	70	9/	78	87		93	66	100							SR357-01
	NV NP	27	40	59	99	71	78	82	84	89		94	. 26	100							SR357-02
	NV NP	25	37	56	29	75	84	88	89	93		86	100								SR357-03
SM	NV NP	23	34	99	29	74	83	98	87	91		94	100								SR357-04
SM	NV NP	22	22	83	98	88	89	06	91	92		96	100								SR357-05
SP-SM	NV NP	9.9	33	20	82	88	91	92	92	93		93	100								SR357-06
SP-SM	NV NP	5.5	22	99	89	26	66	100													SR357-07
SP-SM	N NP	6.1	48	63	64	95	96	26	26	98		100									SR357-08
SP	NV NP	1.1	4	16	29	43	62	7.1	73	80		87	100								SR357-09
SP-SM	NV NP	7	33	43	47	51	09	65	29	73		81	8								SR357-10
SM	NV NP	15	19	78	85	93	26	86	66	100											SR357-11
SC	25 11	33	59	73	78	8	85	87	88	91		95	100								SR357-12
SP	N NP	2.5	Ξ	36	9	9/	98	89	06	94		98	100								SR357-13
SP	N NP	3.8	9	16	29	45	29	77	79	86		83	100								SR357-14

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Attn:

Branden L Sanders

Project Name:

Albuquerque Levees

Albuquerque Albuquerque, NM

Project Manager:

Herman Garcia

Report Date: August 07, 2006

Project #: 6-519-004033

Report #: 445

Work Order #: 44

Sampled By: CLIENT

Date Sampled: 06/27/2006

SOILS / AGGREGATES

Lab#	Color & Type of Material	Sample Source	Wet Weight (g)	Dry Weight (g)	Moisture (%)	Dry Density (pcf)
SR357-01		8HSA-65 A 0'	239.0	217.0	10.1%	
SR357-02		8HSA-65 B 2 1/2'	296.6	283.7	4.5%	
SR357-03		8HSA-65 C 5'	296.6	283.7	4.5%	
SR357-04		8HSA-65 D 7 1/2'	289.1	276.9	4.4%	
SR357-05		8HSA-65 E 10'	287.0	272.9	5.2%	
SR357-06		8HSA-65 F 12 1/2'	294.9	285.2	3.4%	
SR357-07		8HSA-65 G 15'	297.8	293.8	1.4%	
SR357-08		8HSA-65 H 17 1/2'	285.2	269.2	5.9%	
SR357-09		8HSA-65 I 20'	289.8	253.4	14.4%	
SR357-10		8HSA-65 J 22 1/2'	207.8	170.5	21.9%	
SR357-11		8HSA-65 K 25'	286.4	242.9	17.9%	
SR357-12		8HSA-65 L 27 1/2'	202.7	169.8	19.4%	
SR357-13		8HSA-65 M 30'	182.8	153.2	19.3%	
SR357-14		8HSA-65 Q 40'	283.6	242.1	17.1%	

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Distribution: Client: ✓

Email:

File: Supplier: Other: Addressee (2)

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Fax 5058217371

amec Report Date: August 07, 2006

> Geomechanics Southwest Inc. Client:

P.O. Box 6527

Albuquerque, NM 87197-

Branden L Sanders Attention:

Albuquerque Levees Project Name:

Albuquerque

Albuquerque, NM

Project Manager: Herman Garcia

Project #: 6-519-004033

Work Order #: 45

Date Sampled: 06/27/2006 Sampled By: CLIENT

Sieve Analaysis (ASTM C117/C136) Plasticity Index (ASTM D4318)

Soil Classification (ASTM D2487)

SOILS / AGGREGATES

Soil Sample Location Class. L.L. P.I. #200 #100 #50 #4 <mark>0</mark> #30 #16 #10 #8 <mark>#4</mark> 1/4" 3/8" 1/2" 3/4' 1" 11/4"11/2" 2" 21/2" 3" 6" 12" Number	Soil Class.	L.L. P.I.	#200	1 #100	0 #50	4#	0 #3	#14	3 #1(8#	#	1/4"	3/8"	1/2"	3/4.	#	1 1/4" 1 1/2"	2".	2 1/2"	3.	.9	12"	Lab Number
8HSA-66 A 0'	SM	N NP	19	19 37	, 54	1 62		82 69	3 83	8 84	89		94	100									SR355-01
8HSA-66 B 2 1/2'	SM	NV NP	22	42	2 82	98		89 93	3 95	96 9	97		100										SR355-02
8HSA-66 C 5'	SW-SM	N NP	5.0	12	27	4	1 54	4 68	3 74	92 1	82		88	100									SR355-03
8HSA-66 D 7 1/2'	SP	NV NP	4.3	7	23	32		42 53	3 59	9 61	69		11	100									SR355-04
8HSA-66 E 10'	SP	N NP	2.2	4	10	-	7 24	4 38	3 47	7 51	64		80	100									SR355-05
8HSA-66 F 12 1/2'	SP-SM	N NP	5.0	∞	23	3 40		59 77	7 84	4 88	95		86	100									SR355-06
8HSA-66 G 15'	SP	N NP	3.8	9	17	30		41 57	99 /	69	77		8	100									SR355-07

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Branden L Sanders

Project Name:

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Albuquerque

Albuquerque, NM

Report Date: August 07, 2006

Project #: 6-519-004033

Report #: 446

Work Order #: 45

Sampled By: CLIENT

Date Sampled: 06/27/2006

Project Manager: Herman Garcia

SOILS / AGGREGATES

Lab #	Color & Type of Material	Sample Source	Wet Weight (g)	Dry Weight (g)	Moisture (%)	Dry Density (pcf)
SR355-01		8HSA-66 A 0'	264.3	256.1	3.2%	
SR355-02		8HSA-66 B 2 1/2'	183.4	162.5	12.9%	
SR355-03		8HSA-66 C 5'	205.2	204.0	0.6%	
SR355-04		8HSA-66 D 7 1/2'	249.2	244.7	1.8%	
SR355-05		8HSA-66 E 10'	232.4	214.5	8.3%	
SR355-06		8HSA-66 F 12 1/2'	230.2	205.2	12.2%	
SR355-07		8HSA-66 G 15'	237.2	215.5	10.1%	

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Distribution: Client: ✓

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File: Supplier: Other: Addressee (2)

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Geomechanics Southwest Inc. Client:

P.O. Box 6527

87197-Albuquerque, NM

Branden L Sanders Attention:

Albuquerque Levees Albuquerque Project Name:

Albuquerque, NM

Project Manager: Herman Garcia

SOILS / AGGREGATES

Report Date: August 15, 2006

Project #: 6-519-004033 Work Order #: 46

Date Sampled: 06/27/2006 Sampled By: CLIENT

Sieve Analaysis (ASTM C117/C136) Plasticity Index (ASTM D4318) Soil Classification (ASTM D2487)

Sample Location	Soil Class.	L.L. P.I. #200 #100 #50	#200	#100	#20	#40	#30	#16	#10	8#	#	1/4" 3/8"	3/8" 1	1/2"	3/4.	<u>-</u>	3/4' 1" 11/4"11/2" 2" 21/2" 3"	12 2	21	/2" 3	6" 12"		Lab Number
8HSA-67 A 0'	SM	NV NP	18	25	36	45	53	65	73	75	87		. 26	9 5								0-9	6-0968-01
8HSA-67 B 2 1/2'	SM	N NP	25	4	25	28	64	72	77	78	84		95	100								9	6-0968-02
8HSA-67 C 5'	SM	N NP	4	26	4	47	53	62	29	69	77		85	88	89	100						9	6-0968-03
8HSA-67 D 7 1/2'	SM	N NP	22	43	62	20	75	82	87	89	96		66	100								9	6-0968-04
8HSA-67 E 10'	SM	N NP	4	89	82	98	88	06	95	93	26		100									0-9	9-0968-05
8HSA-67 F 12 1/2'	SP-SM	N NP	6.4	27	98	97	66	100														9	90-8960-9
8HSA-67 G 15'	SM	N NP	33	54	78	8	98	89	91	95	96		100									9	9-0968-07
8HSA-67 H 17 1/2'	SM	N NP	16	31	48	26	61	2	9/	77	84		8	100								9	80-8960-9
8HSA-67 I 20'	SP	N NP	2.7	2	22	37	47	58	99	69	80		88	100								9	60-8960-9
8HSA-67 J 17 1/2' 22.5'.SP	578P	N NP	4.	2	26	20	29	80	8	85	83		95	100								0-9	6-0968-10
8HSA-67 K 20' 25.07 SP	3 SP	N NP	2.8	က	4	9	5	24	37	42	59		. 62	100								9	6-0968-11
8HSA-67 L 27 1/2'	SP	N NP	1.6	2	13	23	36	28	72	92	88		96	100								0-9	6-0968-12
8HSA-67 M 30'	SP	N N	2.0	က	5	19	34	9	74	11	98		91	100								9	6-0968-13

6-0968-13 6-0968-14 6-0968-15 6-0968-16

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32 20

9 4 23 8

2.0 6.0 1.5 5.

N NP N NP N N N NP

В SP

8HSA-67 N 32 1/2'

8HSA-67 O 35' 8HSA-67 Q 40'

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> File: Distribution: Client: ✓ Email: □

Reviewed By: 🔏

Other: Addressee (2) Supplier:

> AMEC Earth . Environmental, Inc. 8519 Jefferson NE

Albuquerque, NM 87113 Tel 5058211801 Fax 5058217371



Geomechanics Southwest Inc.

P.O. Box 6527

Albuquerque, NM 87197-

Report Date: August 15, 2006

Project #: 6-519-004033

Report #: 456

Work Order #: 46

Sampled By: CLIENT

Date Sampled: 06/27/2006

Attn:

Branden L Sanders

Project Name:

Albuquerque Levees

Albuquerque

Albuquerque, NM

Project Manager:	Herman Garcia	SOILS / AGGREGATES				
Lab #	Color & Type of Material	Sample Source	Wet Weight (g)	Dry Weight (g)	Moisture (%)	Dry Density (pcf)
6-0968-01		8HSA-67 A 0'	281.4	278.3	1.1%	- 4
6-0968-02		8HSA-67 B 2 1/2'	278.8	258.2	8.0%	
6-0968-03		8HSA-67 C 5'	296.2	283.8	4.4%	
6-0968-04		8HSA-67 D 7 1/2'	294.2	273.9	7.4%	
6-0968-05		8HSA-67 E 10'	291.2	262.1	11.1%	
6-0968-06		8HSA-67 F 12 1/2'	279.1	274.5	1.7%	
6-0968-07		8HSA-67 G 15'	175.4	159.3	10.1%	
6-0968-08		8HSA-67 H 17 1/2'	268.6	240.0	11.9%	
6-0968-09		8HSA-67 I 20'	290.0	258.3	12.3%	
6-0968-10		8HSA-67 J 17 1/2' 22.5	271.4	236.7	14.7%	
6-0968-11		8HSA-67 K 20' 25.0	241.1	216.3	11.5%	
6-0968-12		8HSA-67 L 27 1/2'	252.2	214.8	17.4%	
6-0968-13		8HSA-67 M 30'	225.5	191.8	17.6%	
6-0968-14		8HSA-67 N 32 1/2'	190.6	173.2	10.0%	
6-0968-15		8HSA-67 O 35'	139.7	122.3	14.2%	
6-0968-16		8HSA-67 Q 40'	280.3	233.6	20.0%	

Reviewed By:

Distribution: Client: ✓

Email: \square

File: Supplier: Other: Addressee (2)

AMEC Earth _Environmental, Inc. 8519 Jefferson NE Albuquerque, NM 87113

Tel 5058211801 Fax 5058217371

ALBUQUERQUE LEVEES ALBUQUERQUE, NEW MEXICO Table 1. Summary of Soil Characteristics

Borehole ID	sample `depth (ft.)	USCS Classifica- tion	liquid limit	plasticity index	Blow count Per 6"	gravimetric moisture content	% finer than US #4 sieve (by weight)	% finer than US #40 sieve (by weight)	% finer than US #200 sieve (by weight)
8HSA-01	0	SC	31	14	3,4,3	9.3	99	93	48
8HSA-01	-2.5	SC	31	15	4,7,7	19.1	92	72	45
8HSA-01	-5.0	SC	30	16	3,3,2	17.2	89	80	40
8HSA-01	-7.5	SP-SM	NV	NP	3,2,5	26.0	98	86	11
8HSA-01	-10.0	SM	NV	NP	2,3,3	25.4	93	71	24
8HSA-01	-12.5	SM	NV	NP	2,2,5	21.0	98	74	20
8HSA-01	-15.0	SM	NV	NP	1,5,6	17.2	97	64	18
8HSA-02	0	SP-SM	NV	NP	5,10,13	3.1	98	88	9.2
8HSA-02	-2.5	SM	NV	NP	4,4,7	11.4	95	71	28
8HSA-02	-5.0	SC	31	12	3,6,8	9.5	95	72	29
8HSA-02	-7.5	SC	34	16	7,9,10	6.2	100	89	48
8HSA-02	-10.0	SP	NV	NP	4,4,6	1.0	90	58	2.6
8HSA-02	-12.5	SP	NV	NP	4,9,10	10.7	-	94	3.8
8HSA-02	-15.0	SP	NV	NP	1,2,10	20.3	100	82	2.0
8HSA-02	-17.5	SP	NV	NP	1,3,4	19.7	97	82	4.2
8HSA-02	-20.0	SP	NV	NP	2,5,5	19.9	-	83	1.6
8HSA-02	-22.5	*	*	*	7,17,14	*	*	*	*
8HSA-02	-25.0	SP	NV	NP	4,5,8	21.3	87	45	2.3
8HSA-02	-27.5	SP	NV	NP	3,5,7	16.1	83	37	2.3
8HSA-02	-30.0	SP	NV	NP	6,8,6	17.5	99	43	4.3
8HSA-03	0	SM	NV	NP	5,9,15	8.6	-	97	26
8HSA-03	-2.5	SP-SM	NV	NP	6,6,5	6.3	85	57	4.9
8HSA-03	-5.0	SP	NV	NP	6,8,12	7.9	95	62	3.9
8HSA-03	-7.5	SP-SM	NV	NP	2,1,3	5.4	96	55	4.5
8HSA-03	-10.0	SP	NV	NP	2,6,7	5.7	96	70	4.4
8HSA-03	-12.5	SP-SM	NV	NP	3,4,5	4.9	98	74	5.1
8HSA-03	-15.0	SP-SM	NV	NP	4,4,5	2.8	89	33	4.7
8HSA-03	-17.5	SM	NV	NP	3,2,3	7.0	99	85	13
8HSA-03	-20.0	SP-SM	NV	NP	4,3,2	10.4	100	75	8.4
8HSA-03	-22.5	SP	NV	NP	2,4,11	10.4	63	48	3.3
8HSA-03	-25.0	SP-SM	NV	NP	7,16,13	11.6	88	46	5.6
8HSA-03	-27.5	SP	NV	NP	6,14,12	8.7	70	20	2.0
8HSA-03	-30.0	*	*	*	2,11,10	*	*	*	*
8HSA-04	0	SM	NV	NP	2,4,5	18.2	80	55	35
8HSA-04	-2.5	SM	NV	NP	3,3,7	13.9	100	67	15
8HSA-04	-5.0	SP	NV	NP	3,3,4	16.5	92	61	2.2
8HSA-04	-7.5	SP-SM	NV	NP	1,1,1	13.9	90	59	4.6
8HSA-04	-10.0	SP	NV	NP	1,0,1	16.7	88	48	4.3
8HSA-04	-12.5	SP-SM	NV	NP	4,3,5	14.2	83	40	6.9
8HSA-04	-15.0	SP-SM	NV	NP	4,5,9	13.2	84	55	7.2
8HSA-05	0	SM	NV	NP	5,6,8	2.4	100	43	20
8HSA-05	-2.5	SM	NV	NP	4,5,6	5.3	100	58	20
8HSA-05	-5.0	SM	NV	NP	8,12,13	5.2	96	60	21
8HSA-05	-7.5	SM	NV	NP ND	8,6,7	6.8	93	75	20
8HSA-05	-10.0	SM	NV	NP	3,4,4	8.5	93	69	18
8HSA-05	-12.5	SP-SM	NV	NP ND	3,4,5	10.6	86	52	6.0
8HSA-05	-15.0	SP-SM SP SM	NV	NP ND	1,2,5	17.2	87	48	7.8
8HSA-05	-17.5	SP-SM	NV	NP	6,11,10	17.1	95	54	4.6
8HSA-05	-20.0	SW	NV	NP ND	1,4,8	20.8	100	38	4.3
8HSA-05	-22.5	SP-SM SM	NV NV	NP NP	3,7,6	22.5 14.1	97 84	65 55	8.9
8HSA-05	-25.0	SIVI	14.4	INF	2,10,9	14.1	04	33	14
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^{*} NO RECOVERY

Borehole ID	sample `depth (ft.)	USCS Classifica- tion	liquid limit	plasticity index	Blow count Per 6"	gravimetric moisture content	% finer than US #4 sieve	% finer than US #40 sieve (by weight)	% finer than US #200 sieve (by weight)
OTTO L OF			20		100		(by weight)		
8HSA-05	-27.5	CL	38	22	1,2,3	36.1	100	81	57
8HSA-05 8HSA-06	-30.0	CL	43	2 7	1,2,2	37.1	91	7 8 97	57
	0	CL	30		3,4,2	15.4	-		60
8HSA-06	-2.5	SP	NV	NP	3,5,5	15.1	- 70	92	3.7
8HSA-06	-5.0	SP	NV	NP	2,1,2	17.8	70	20	4.0
8HSA-06 8HSA-06	-7.5	SP	NV	NP	2,5,4	19.7	72	22	2.1
	-10.0	SP	NV	NP	1,0,1	11.9	70	21	2.2
8HSA-06	-12.5	SP	NV	NP	1,2,3	16.9	68	31	2.9
8HSA-06	-15.0	SP	NV	NP	4,5,7	16.7	70	27	1.4
8HSA-07	0	CL	31	11	1,1,2	11.7	-	98	69
8HSA-07	-2.5	ML	NV	NP	6,7,6	15.4	-	98	60
8HSA-07	-5.0	SP-SM	NV	NP	3,3,4	17.6	83	35	10
8HSA-07	-7.5	SP-SM	NV	NP	2,2,4	15.0	86	39	7.0
8HSA-07	-10.0	SP-SM	NV	NP	3,4,4	21.1	82	41	6.5
8HSA-07	-12.5	SP-SM	NV	NP	3,1,2	17.0	85	29	9.0
8HSA-07	-15.0	CL	35	15	1,0,0	19.2	99	91	65
8HSA-08	0	CL	38	17	7,7,10	6.2	100	94	56
8HSA-08	-2.5	CL	40	17	9,13,13	14.9	-	94	54
8HSA-08	-5.0	SC	37	13	5,4,5	9.8	97	82	45
8HSA-08	-7.5	SC	38	16	3,3,7	14.3	99	97	42
8HSA-08	-10.0	SP	NV	NP	2,3,3	4.2	99	84	0.7
8HSA-08	-12.5	SP-SM	NV	NP	2,5,6	19.1	92	46	11
8HSA-08	-15.0	SW-SM	NV	NP	2,4,9	16.3	82	31	5.7
8HSA-08	-17.5	SP-SM	NV	NP	3,3,3	30.2	90	61	8.3
8HSA-08	-20.0	SP-SM	NV	NP	2,1,5	17.9	63	21	11
8HSA-08	-22.5	CL	42	18	2,3,3	29.5	-	96	86
8HSA-08	-25.0	CL	35	19	2,5,11	23.9	99	89	54
8HSA-08	-27.5	CL	47	22	3,7,9	29.2	100	98	94
8HSA-08	-30.0	CL	42	19	10,8,11	26.7	100	96	80
8HSA-09	0	SM	NV	NP	6,8,13	3.3	96	81	26
8HSA-09	-2.5	SM	NV	NP	10,18,22	4.8	100	82	22
8HSA-09	-5.0	SM	NV	NP	5,9,12	1.8	93	68	22
8HSA-09	-7.5	SM	NV	NP	8,11,12	2.9	98	75	14
8HSA-09	-10.0	SP-SM	NV	NP	5,5,11	1.7	99	78	7.2
8HSA-09	-12.5	SP-SM	NV	NP	5,7,8	2.9	-	70	5.5
8HSA-09	-15.0	SP	NV	NP	2,2,5	16.5	92	36	0.9
8HSA-09	-17.5	SP *	NV *	NP *	2,2,8	19.5	100	79 *	0.9
8HSA-09	-20.0			<u> </u>	2,3,3				
8HSA-09	-22.5	SW-SM	NV	NP 20	6,6,4	25.0	93	41	9.1
8HSA-09	-25.0	SC	47	20	1,0,0	38.2	99	68	48
8HSA-09	-27.5	SC	35	13	0,0,0	31.8	95	50 52	27
8HSA-09	-30.0	SC	57	30	1,2,4	35.4	86	52	43
8HSA-10	0	SC	33	13	3,3,5	7.2	86	51	38
8HSA-10	-2.5	SP-SM	NV	NP	6,11,13	2.9	78	65	9.1
8HSA-10	-5.0	SP-SM	NV	NP	4,4,5	3.2	100	67	5.5
8HSA-10	-7.5	SP	NV	NP	3,2,5	15.7	93	37	0.7
8HSA-10	-10.0	SP	NV	NP	1,2,1	14.7	84	24	2.2
8HSA-10	-12.5	SP	NV	NP	2,3,5	20.1	99	46	1.4
8HSA-10	-15.0	SP	NV	NP	3,5,5	19.6	99	55	4.1
8HSA-11	0	SM	NV	NP	2,6,7	0.7	97	72	23
8HSA-11	-2.5	SP-SM	NV	NP	9,14,17	2.4	100	86	6.9
8HSA-11	-5.0	SP	NV	NP	6,8,7	2.9	100	83	4.2
8HSA-11	<u>-7.5</u>	SP	NV	NP	5,3,5	16.8	98	78	2.7
8HSA-11	-10.0	SP	NV	NP NP	1,2,1	17.2	98	40	0.8

Borehole ID	sample `depth (ft.)	USCS Classifica- tion	liquid limit	plasticity index	Blow count Per 6"	gravimetric moisture content	% finer than US #4 sieve (by weight)	% finer than US #40 sieve (by weight)	% finer than US #200 sieve (by weight)
8HSA-11	-12.5	SP	NV	NP	0,0,1	15.0	89	48	1.8
8HSA-11	-15.0	SP	NV	NP	4,5,7	17.2	87	68	3.3
8HSA-12	0	SP-SM	NV	NP	2,6,7	1.7	83	56	9.4
8HSA-12	-2.5	SM	NV	NP	3,2,2	4.1	98	80	14
8HSA-12	-5.0	SM	NV	NP	3,3,5	3.8	99	80	13
8HSA-12	-7.5	SM	NV	NP	3,4,8	3.6	98	83	19
8HSA-12	-10.0	SM	NV	NP	4,5,7	3.4	99	90	27
8HSA-12	-12.5	SP	NV	NP	2,4,6	2.4	99	80	2.5
8HSA-12	-15.0	SP	NV	NP	2,2,5	12.2	98	85	4.2
8HSA-12	-17.5	SP-SM	NV	NP	1,4,3	14.0	95	45	8.0
8HSA-12	-20.0	SP	NV	NP	3,5,3	13.4	100	49	4.4
8HSA-12	-22.5	*	*	*	6,6,9	*	*	*	*
8HSA-12	-25.0	SP	NV	NP	4,5,5	4.4	-	35	1.8
8HSA-12	- 27.5	SP-SM	NV	NP	2,5,7	5.4	100	44	4.6
8HSA-12	-30.0	*	*	*	6,9,13	*	*	*	*
8HSA-13	0	SM	NV	NP	10,11,12	21.8	99	85	27
8HSA-13	-2.5	SP-SM	NV	NP	3,4,4	16.1	99	84	11
8HSA-13	-5.0	SP	NV	NP	3,6,4	2.8	-	92	2.8
8HSA-13	-7.5	SP-SM	NV	NP	3,4,3	16.0	88	31	5.3
8HSA-13	-10.0	SP-SM	NV	NP	1,0,2	18.2	93	72	5.5
8HSA-13	-12.5	SP-SM	NV	NP	2,5,4	16.8	92	74	6.9
8HSA-13	-15.0	SP-SM	NV	NP	2,3,3	21.6	93	70	5.4
8HSA-14	0	SM_	NV	NP	8,15,23	2.5	95	86	22
8HSA-14	-2.5	SP	NV	NP	10,12,13	8.7	87	49	3.1
8HSA-14	-5.0	SP-SM	NV	NP	5,6,7	6.4	98	72	10
8HSA-14	-7.5	SP-SM SP	NV	NP NP	9,11,11 5,7,7	8.7 13.0	81 98	60 74	8.3 4.1
8HSA-14 8HSA-14	-10.0 -12.5	SP-SM	NV NV	NP NP	3,4,10	22.1	91	58	11
8HSA-14	-12.3	SM	NV	NP	2,3,5	6.8	99	86	14
8HSA-14	-17.5	SP	NV	NP	2,3,8	19.3	99	79	3.9
8HSA-14	-20.0	SP	NV	NP	5,9,9	21.3	-	94	2.6
8HSA-14	-22.5	SP	NV	NP	0,3,2	14.3	76	31	4.1
8HSA-14	-25.0	SP-SM	NV	NP	5,4,5	16.0	77	40	11
8HSA-14	-27.5	SP-SM	NV	NP	5,10,10	14.1	67	40	11
8HSA-14	-30.0	*	*	*	4,5,8	*	*	*	*
8HSA-15	0	SP-SM	NV	NP	5,8,9	2.9	65	43	5.2
8HSA-15	-2.5	SP	NV	NP	5,4,9	3.2	99	69	3.8
8HSA-15	-5.0	SP-SM	NV	NP	2,3,1	2.6	100	81	4.6
8HSA-15	-7.5	SP	NV	NP	3,6,6	18.6	98	67	2.8
8HSA-15	-10.0	SP-SM	NV	NP	1,1,2	19.5	90	60	8.6
8HSA-15	-12.5	SP	NV	NP	3,2,2	15.1	82	39	1.7
8HSA-15	-15.0	SW-SM	NV	NP	1,2,2	9.1	90	43	7.8
8HSA-16	0	SM	NV	NP	6,17,23	0.4	96	90	28
8HSA-16	-2.5	SM	NV	NP	13,13,19	3.1	100	96	43
8HSA-16	-5.0	SM	NV	NP	6,21,30	4.8	97	88	41
8HSA-16	-7.5	SM	NV	NP	9,13,21	3.4	98	82	18
8HSA-16	-10.0	SM	NV	NP	8,11,13	3.8	96	90 97	36
8HSA-16 8HSA-16	-12.5 -15.0	SM SM	NV NV	NP NP	3,4,12	3.1 11.2	80	74	35
8HSA-16 8HSA-16	-13.0 -17.5	SP	NV	NP	4,3,11	5.6	98	57	1.1
8HSA-16	-20.0	SP-SM	NV	NP	3,7,7	21.7	81	53	12
8HSA-16	-22.5	SP	NV	NP	3,3,4	15.0	86	31	1.1
8HSA-16	-25.0	SM	NV	NP	2,4,5	8.6	69	50	16
8HSA-16	-27.5	*	*	*	3,6,8	*	*	*	*
8HSA-16	-30.0	SM	NV	NP	4,2,2	26.8	88	34	. 17

Borehole ID	sample `depth (ft.)	USCS Classifica- tion	liquid limit	plasticity index	Blow count Per 6"	gravimetric moisture content	% finer than US #4 sieve	% finer than US #40 sieve (by weight)	% finer than US #200 sieve (by weight)
							(by weight)		, ,
8HSA-17	0	SP-SM	NV	NP	6,13,14	1.0	97	81	12
8HSA-17	-2.5	SP-SM	NV	NP	9,11,20	2.9	-	94	9.3
8HSA-17	-5.0	SM	NV	NP	6,8,7	4.3	99	85	15
8HSA-17	<u>-7.5</u>	SM	NV	NP	4,4,5	4.5	97	83	15
8HSA-17	-10.0	SM	NV	NP	2,3,5	29.2	98	56	28
8HSA-17	-12.5	SP-SM	NV	NP	3,6,8	4.5	99	89	5.6
8HSA-17	-15.0	SP	NV	NP	2,3,5	21.0	-	94	4.4
8HSA-17	-17.5	*	*	*	1,0,4	*	*	*	*
8HSA-17	-20.0	*	*	*	1,4,3	*	*	*	*
8HSA-17	-22.5	SP	NV	NP	3,5,4	9.8	79	26	2.4
8HSA-17	-25.0	SW	NV	NP	3,4,3	8.9	69	9	3.6
8HSA-17	-27.5	*	*	*	0,0,3	*	*	*	*
8HSA-17	-30.0	SM	NV	NP	1,3,2	23.6	-	89	25
8HSA-18	0	SM	NV	NP	6,6,6	3.0	96	69	28
8HSA-18	-2.5	SM	NV	NP	3,3,5	25.1	96	70	24
8HSA-18	-5.0	SM	NV	NP	2,4,4	16.1	99	93	27
8HSA-18	-7.5	SP-SM_	NV	NP	2,3,2	18.4	99	75	11
8HSA-18	-10.0	SP	NV	NP	2,2,2	14.2	72	24	2.9
8HSA-18	-12.5	SP-SM	NV	NP	2,3,4	14.0	54	14	8.4
8HSA-18	-15.0	SP	NV	NP	2,3,5	15.1	78	18	2.6
8HSA-19	0	SM	NV	NP	10,14,14	1.4	98	91	15
8HSA-19	-2.5	SM	NV	NP	5,6,7	3.8	-	98	24
8HSA-19	-5.0	SM	NV	NP	4,5,7	4.3	97	81	27
8HSA-19	-7.5	SM	NV	NP	1,3,5	2.2	99	85	18
8HSA-19	-10.0	ML	20	2	4,7,7	6.1	-	96	51
8HSA-19	-12.5	SP-SM	NV	NP	3,4,3	1.2	_	94	8.8
8HSA-19	-15.0	SP	NV	NP	2,3,4	2.1	99	55	1.5
8HSA-19	-17.5	SP	NV	NP	2,3,4	18.1	90	43	1.7
8HSA-19	-20.0	SP	NV	NP	2,3,3	12.8	71	30	1.4
8HSA-19	-22.5	_	-	-	3,5,6	-	-	-	-
8HSA-19	-25.0	SP	NV	NP	3,5,7	14.4	82	21	0.8
8HSA-19	-27.5	SP	NV	NP	4,5,8	16.6	87	40	4.2
8HSA-19	-30.0	SP-SM	NV	NP	3,3,4	13.4	74	20	5.0
8HSA-20	0	SP-SM	NV	NP	1,3,3	0.9	_	97	8.6
8HSA-20	-2.5	SP-SM	NV	NP	5,8,7	2.2	_	97	9.9
8HSA-20	-5.0	SM	NV	NP	3,4,3	1.7	_	99	16
8HSA-20	-7.5	SP	NV	NP	2,4,5	1.9	-	89	2.2
8HSA-20	-10.0	SP	NV	NP	3,3,3	13.8	-	94	2.7
8HSA-20	-12.5	SP	NV	NP	1,5,7	19.1	97	51	2.5
8HSA-20	-15.0	SP	NV	NP	2,3,4	18.3	96	46	1.9
8HSA-21	0	SM	NV	NP	9,15,24	1.9	-	93	33
8HSA-21	-2.5	SM	NV	NP	14,16,16	3.4	_	94	25
8HSA-21	-5.0	SM	NV	NP	8,5,5	4.8	100	93	30
8HSA-21	-7.5	SM	NV	NP	5,4,7	3.9	99	89	23
8HSA-21	-10.0	SM	NV	NP	3,3,5	9.4	-	98	39
8HSA-21	-12.5	SM	NV	NP	3,3,5	16.5	-	99	37
8HSA-21	-15.0	SP-SM	NV	NP	6.7,5	16.2	85	51	5.6
8HSA-21	-17.5	SP	NV	NP	2,3,6	16.5	81	41	4.0
8HSA-21	-20.0	SP	NV	NP	2,4,4	16.4	85	28	1.5
8HSA-21	-22.5	SW-SM	NV	NP	1,2,0	15.9	83	28	8.7
8HSA-21	-25.0	*	*	*	2,2,5	*	*	*	*
8HSA-21	-27.5	SM	NV	NP	5,2,2	28.8	100	92	40
8HSA-21	-30.0	ML	NV	NP	4,7,3	24.5	100	98	65
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Borehole ID	sample `depth	USCS Classifica-	liquid limit	plasticity index	Blow count Per 6"	gravimetric moisture	% finer than US #4 sieve	% finer than US #40 sieve	% finer than US #200 sieve
	(ft.)	tion		maca		content	(by weight)	(by weight)	(by weight)
8HSA-23	0	SM	NV	NP	8,15,11	1.6	85	75	27
8HSA-23	-2.5	SM	NV	NP	4,5,6	7.1	99	92	29
8HSA-23	-5.0	SM	NV	NP	4,5,10	2.8	97	76	15
8HSA-23	-7.5	SP-SM	NV	NP	9,13,13	2.0	87	62	7.4
8HSA-23	-10.0	SM	NV	NP	9,9,12	2.1	97	75	13
8HSA-23	-12.5	SM	NV	NP	3,5,8	4.9	98	85	14
8HSA-23	-15.0	SP	NV	NP	4,3,7	2.8	100	73	3.1
8HSA-23	-17.5	SP	NV	NP	2,6,4	19.9	97	59	3.6
8HSA-23	-20.0	SP	NV	NP	2,2,6	18.7	96	69	2.0
8HSA-23	-22.5	SP	NV	NP	2,2,2	16.2	93	20	2.5
8HSA-23	-25.0	SP *	NV *	NP *	5,9,6	14.7	92	48 *	0.3
8HSA-23	-27.5				5,6,5	16.7	99	36	0.6
8HSA-23	-30.0	SP	NV	NP	3,5,8	10./	99	30	0.0
24	0	CM	NV	NP	2 0 11	3.6	99	90	23
8HSA-25 8HSA-25	-2.5	SM SM	NV	NP NP	3,8,11 9,11,10	4.7	100	93	30
8HSA-25	-2.5 -5.0	SM	NV	NP	6,12,14	9.9	97	92	49
8HSA-25	- -3.0 -7.5	ML	NV	NP	5,5,6	9.8	100	96	55
8HSA-25	-10.0	ML	NV	NP	4,7,6	12.7	99	98	59
8HSA-25	-12.5	ML	NV	NP	2,2,5	22.5	-	98	53
8HSA-25	-15.0	SP	NV	NP	3,2,7	23.5	_	93	3.8
8HSA-25	-17.5	SP	NV	NP	2,5,6	14.7	87	31	0.6
8HSA-25	-20.0	*	*	*	6,5,3	*	*	*	*
8HSA-25	-22.5	SP	NV	NP	7,7,6	14.0	71	22	3.3
8HSA-25	-25.0	SP	NV	NP	3,1,3	14.2	80	16	1.5
8HSA-25	-27.5	SP	NV	NP	5,6,7	14.8	93	35	2.5
8HSA-25	-30.0	SP-SM	NV	NP	6,8,13	17.6	92	67	6.4
8HSA-26	0	SM	NV	NP	4,16,9	2.0	99	92	39
8HSA-26	-2.5	SC-SM	21	5	2,3,6	21.3	-	98	45
8HSA-26	-5.0	SM	NV	NP	4,6,6	24.0	99	96	34
8HSA-26	-7.5	SP	NV	NP	2,1,3	16.9	97	41	2.9
8HSA-26	-10.0	SP	NV	NP	1,2,2	20.9	99	40	0.8
8HSA-26	-12.5	SW-SM	NV	NP	2,3,5	18.8	87	51	9.9
8HSA-26	-15.0	SP	NV	NP	5,6,10	3.3	83	7	2.4
8HSA-27	0	*	*	*	7,4,2	*	*	*	*
8HSA-27	-2.5	SP-SM	NV	NP	3,4,5	2.0	95	55	7.0
8HSA-27	-5.0	SW-SM	NV	NP	4,5,6	18.2	97	47	9.7
8HSA-27	-7.5	SP	NV	NP	1,0,1	7.2	77	19	2.0
8HSA-27	-10.0	SP	NV	NP	3,1,2	88.1	96	36	0.3
8HSA-27	-12.5	SP	NV	NP	1,1,4	18.7	96	16	0.5
8HSA-27	-15.0	SP	NV	NP	4,7,8	11.9	73	9	0.7
8HSA-28	0	SM	NV	NP	13,22,29	0.7	99	77	16
8HSA-28	-2.5	SM	NV	NP	7,8,13	3.6	99	83	25
8HSA-28	-5.0	SM	NV	NP	7,6,7	7.4	100	89	39
8HSA-28	-7.5	ML	NV	NP	6,9,8	11.2	98	83	50
8HSA-28	-10.0	ML	NV 27	NP	6,2,4	12.0	99	85	57
8HSA-28	-12.5	CL	27	8 ND	1,2,4	42.9	-	98	90
8HSA-28	-15.0	SM	NV	NP	1,2,1	21.7	- 00	83	
8HSA-28	-17.5	SP-SM	NV	NP	3,2,4	23.2	98	80 68	11
8HSA-28	-20.0	SP SP	NV	NP NP	3,2,5	17.1	74	22	0.4
8HSA-28	-22.5	SP	NV NV	NP NP	3,5,7 6,8,7	7.7	56	15	2.6
8HSA-28	-25.0 27.5	SP	NV	NP NP	10,16,15	6.5	57	12	1.6
8HSA-28	-27.5		NV	NP NP	 	15.6	97	29	0.5
8HSA-28	-30.0	SP	14 A	INF	6,13,14	13.0	<u> 7/</u>		1 0.5

Borehole ID	sample `depth (ft.)	USCS Classifica- tion	liquid limit	plasticity index	Blow count Per 6"	gravimetric moisture content	% finer than US #4 sieve (by weight)	% finer than US #40 sieve (by weight)	% finer than US #200 sieve (by weight)
8HSA-29	0	SC-SM	21	4	4,7,8	8.1	98	83	30
8HSA-29	-2.5	ML	NV	NP	10,9,7	18.2	-	99	82
8HSA-29	-5.0	CL	27	15	1,3,7	31.1	100	95	74
8HSA-29	-7.5	SP-SM	NV	NP	2,3,2	17.4	96	64	6.7
8HSA-29	-10.0	SP	NV	NP	1,3,4	16.3	97	53	4.3
8HSA-29	-12.5	SP	NV	NP	2,3,6	16.2	90	46	2.7
8HSA-29	-15.0	SP	NV	NP	6,7,5	12.5	94	17	0.3
8HSA-30	0	SM	NV	NP	4,9,10	3.1	90	85	30
8HSA-30	-2.5	SM	NV	NP	11,12,14	4.2	100	88	25
8HSA-30	-5.0	SM	NV	NP	5,8,12	3.2	100	88	20
8HSA-30	-7.5	SP-SM	NV	NP	6,9,14	2.2	98	79	8.0
8HSA-30	-10.0	SM	NV	NP	3,3,8	11.2	99	85	27
8HSA-30	-12.5	SP	NV	NP	7,7,14	10.3	-	77	2.5
8HSA-30	-15.0	SP	NV	NP	2,1,9	18.4	98	62	2.8
8HSA-30	-17.5	SP	NV	NP	3,5,11	10.9	74	21	1.9
8HSA-30	-20.0	*	*	*	2,8,3	*	*	*	*
8HSA-30	-20.5	SP	NV	NP	4,7,12	14.5	82	30	3.6
8HSA-30	-25.0	*	*	*	4,6,11	*	*	*	*
8HSA-30	-23.0 -27.5	SP	NV	NP	2,3,2	17.0	85	42	1.2
8HSA-30	-30.0	SW-SM	NV	NP	4,9,8	16.7	92	39	8.5
8HSA-31	0	SM	NV	NP	10,10,8	2.0	100	87	46
8HSA-31	-2.5	SP-SM	NV	NP	3,6,7	9.0	99	89	12
8HSA-31	-5.0	SP	NV	NP	2,2,4	18.9	92	54	4.0
8HSA-31	-7.5	SP	NV	NP	1,0,1	12.6	74	20	0.8
8HSA-31	-10.0	*	*	*	1,0,1	*	*	*	*
8HSA-31	-12.5	SP	NV	NP	2,1,2	18.0	95	25	0.9
8HSA-31	-15.0	SP	NV	NP	3,5,4	20.0	97	52	2.0
8HSA-32	0	SM	NV	NP	4,5,4	4.3	93	71	23
8HSA-32	-2.5	SP-SM	NV	NP	7,12,16	3.1	98	75	10
8HSA-32	-5.0	SM	NV	NP	4,8,10	6.7	100	89	21
8HSA-32	-7.5	SM	NV	NP	7,9,16	5.5	98	82	13
8HSA-32	-10.0	SM	NV	NP	7,14,5	16.8	97	85	34
8HSA-32	-12.5	SP-SM	NV	NP	4,6,5	16.6	-	99	9.4
8HSA-32	-15.0	SP	NV	NP	1,3,6	21.8	99	83	1.5
8HSA-32	-17.5	SP	NV	NP	9,10,10	22.9	_	92	2.3
8HSA-32	-20.0	SM	NV	NP	4,6,3	14.6	97	85	13
8HSA-32	-22.5	CL	48	31	6,8,7	34.6	-	97	86
8HSA-32	-25.0	CL	31	17	2,2,5	42.2	99	84	58
8HSA-32	-27.5	SP	NV	NP	1,3,6	18.1	97	69	3.9
8HSA-32	-30.0	SP	NV	NP	6,7,7	18.6	99	74	2.6
8HSA-33	0	ML	NV	NP	15,18,15	3.5	99	92	50
8HSA-33	-2.5	SM	NV	NP	10,16,16	5.3	99	81	36
8HSA-33	-5.0	SP-SM	NV	NP	3,9,10	3.5	99	82	12
8HSA-33	-7.5	SP-SM	NV	NP	3,3,6	4.5	97	81	10.0
8HSA-33	-10.0	SP	NV	NP	6,7,10	2.2	-	95	4.0
8HSA-33	-12.5	SP	NV	NP	4,2,5	18.1	_	86	2.9
8HSA-33	-15.0	SP	NV	NP	1,2,4	17.6	98	66	3.8
8HSA-33	-17.5	SP	NV	NP	4,5,3	16.9	90	41	1.4
8HSA-33	-20.0	SP	NV	NP	1,2,4	17.0	89	25	1.6
8HSA-33	-22.5	GP	NV	NP	9,11,13	0.6	47	6	0.8
8HSA-33	-25.0	GW	NV	NP	8,15,18	5.1	46	8	0.9
8HSA-33	-27.5	*	*	*	4,7,10	*	*	*	*
8HSA-33	-30.0	*	*	*	5,9,11	*	*	*	*
8HSA-34	0	SM	NV	NP	4,7,8	2.2	98	77	26

Borehole ID	sample `depth	USCS Classifica-	liquid limit	plasticity index	Blow count Per 6"	gravimetric moisture	% finer than US #4 sieve	% finer than US #40 sieve	% finer than US #200 sieve
	(ft.)	tion				content	(by weight)	(by weight)	(by weight)
8HSA-34	-2.5	SP-SM	NV	NP	5,8,11	3.5	-	97	5.4
8HSA-34	-5.0	SP	NV	NP	1,4,4	11.2	98	68	3.3
8HSA-34	<u>-7.5</u>	SP	NV	NP	3,1,2	13.4	72	35	0.7
8HSA-34	-10.0	SP	NV	NP	2,4,3	16.0	98	33	1.7
8HSA-34	-12.5	SP	NV	NP	2,3,5	19.1	99	41	1.0
8HSA-34	-15.0	SP	NV	NP	3,5,6	14.3	82	24	0.9
8HSA-35	0	SM	NV	NP	16,16,10	2.0	85	65	16
8HSA-35	-2.5	SP-SM	NV	NP	16,18,21	2.9	91	59	7.2
8HSA-35	-5.0	SP-SM	NV	NP	4,11,14	2.9	94	62	5.2
8HSA-35	-7.5	SP-SM	NV	NP	13,12,9	4.6	83	74	11
8HSA-35	-10.0	SM	NV	NP	9,13,7	4.7	96	84	19
8HSA-35	-12.5	SP	NV	NP	3,5,9	3.3	75	54	2.7
8HSA-35	-15.0	SP	NV	NP	3,3,6	5.4	99	70	2.5
8HSA-35	-17.5	SP	NV	NP	3,1,2	24.3	93	61	1.8
8HSA-35	-20.0	*	*	*	2,3,5	*	*	*	*
8HSA-35	-22.5	SP	NV	NP	2,3,10	9.4	64	7	0.2
8HSA-35	-25.0	SP	NV	NP	2,3,4	15.2	79	20	1.7
8HSA-35	-27.5	*	*	*	5,7,9	*	*	*	*
8HSA-35	-30.0	SP	NV	NP	3,3,5	11.1	73	27	3.0
8HSA-36	0	SM	NV	NP	3,2,3	4.0	-	94	35
8HSA-36	-2.5	SP-SM	NV	NP	2,3,6	4.1	99	86	4.5
8HSA-36	-5.0	SP	NV	NP	3,2,3	2.0	93	49	1.9
8HSA-36	-7.5	SP	NV	NP	4,3,2	11.4	82	31	1.2
8HSA-36	-10.0	SP-SM	NV	NP	3,2,3	15.7	75	38	5.1
8HSA-36	-12.5	SP	NV	NP	4,2,1	13.9	79	16	0.6
8HSA-36	-15.0	SP-SM	NV	NP	2,2,3	17.6	80	31	6.0
8HSA-37	0	SP-SM	NV	NP	1,0,8	1.0	92	83	8.8
8HSA-37	-2.5	SP	NV	NP	4,5,4	2.0	54	36	2.5
8HSA-37	-5.0	*	*	*	7,6,7	*	*	*	*
8HSA-37	-7.5	SP	NV	NP	3,1,1	15.8	91	48	2.0
8HSA-37	-10.0	SP	NV	NP	1,1,2	18.9	88	56	3.6
8HSA-37	-12.5	SP	NV	NP	1,1,5	17.6	87	22	3.7
8HSA-37	-15.0	*	*	*	3,2,3	*	*	*	*
8HSA-38	0	SM	NV	NP	8,9,10	4.0	90	78	37
8HSA-38	-2.5	SM	NV	NP	8,12,12	4.8	99	93	47
8HSA-38	-5.0	SP-SM	NV	NP	7,11,14	2.4	99	82	12
8HSA-38	-7.5	SM	NV	NP	10,12,21	3.8	-	92	25
8HSA-38	-10.0	SM	NV	NP	7,10,16	7.1	99	93	44
8HSA-38	-12.5	SC	22	9	2,6,10	12.7		86	28
8HSA-38	-15.0	SC	44	28	2,6,4	27.4	100	87	43
8HSA-38	-17.5	SP	NV	NP	4,4,8	15.0	85	25	2.7
8HSA-38	-20.0	SM	NV	NP	2,2,4	19.1	96	59	14
8HSA-38	-22.5	SM	NV	NP	3,2,5	19.7	94	43	13
8HSA-38	-25.0	SP-SC	18	4	1,1,2	20.6	98	42	11
8HSA-38	-27.5	SP-SM	NV	NP	5,5,7	13.9	84	34	5.7
8HSA-38	-30.0	SP	NV	NP	5,8,12	17.6	94	38	3.8
8HSA-39	0	СН	52	30	2,2,4	8.2	-	99	95
8HSA-39	-2.5	CL	49	28	4,5,6	8.4	100	91	-
8HSA-39	-5.0	SP-SM	NV	NP	3,4,7	3.6	96	58	4.5
8HSA-39	-7.5	SP	NV	NP	10,12,21	17.2	97	54	3.1
8HSA-39	-10.0	SP	NV	NP	2,2,2	17.6	96	38	1.9
8HSA-39	-12.5	SP-SM	NV	NP	3,3,6	20.0	93	65	7.4
8HSA-39	-15.0	SP	NV	NP	1,3,4	14.2	79	21	1.1
8HSA-40	0	SM	NV	NP	4,7,9	0.3	97	87	24
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Borehole ID	sample `depth	USCS Classifica-	liquid limit	plasticity index	Blow count Per 6"	gravimetric moisture	% finer than US #4 sieve	% finer than US #40 sieve	% finer than US #200 sieve
10	(ft.)	tion				content	(by weight)	(by weight)	(by weight)
8HSA-40	-2.5	SP-SM_	NV	NP	7,13,14	1.6	94	75	7.9
8HSA-40	-5.0	SP-SM	NV	NP	8,11,8	0.9	99	82	7.4
8HSA-40	-7.5	CH	64	44	3,4,5	22.5	-	97	87
8HSA-40	-10.0	CH	66	43	2,2,3	36.2	95	89	78
8HSA-40	-12.5	SC	49	33	5,4,4	35.3	91	76	43
8HSA-40	-15.0	SM	NV	NP	1,3,4	24.4	98	65	29
8HSA-41	0	SM	NV	NP	9,8,10	2.6	86	74	29
8HSA-41	-2.5	SM	NV	NP	8,14,15	5.9	91	68	26
8HSA-41	-5.0	SM	NV	NP	10,13,13	6.5	100	90	39
8HSA-41	-7.5	SM	NV	NP	7,7,11	4.0	98	82	26
8HSA-41	-10.0	SP-SM	NV	NP	7,8,14	2.0	-	97	9.2
8HSA-41	-12.5	SM	NV	NP	3,6,11	18.3	-	99	35
8HSA-41	-15.0	SM	NV	NP	4,2,2	21.2	97	87	25
8HSA-41	-17.5	*	*	*	1,2,5	*	*	*	*
8HSA-41	-20.0	*	*	*	1,2,4	*	*	*	*
8HSA-41	-22.5	SP	NV	NP	3,4,6	18.4	95	23	1.5
8HSA-41	-25.0	SP	NV	NP	2,3,5	19.4	98	24	1.6
8HSA-41	-27.5	SP-SM	NV	NP	4,5,6	20.7	96	34	4.6
8HSA-41	-30.0	SM	NV	NP	3,4,8	23.2	89	54	24
8HSA-42	0	SC	37	19	3,6,7	3.3	100	78	24
8HSA-42	-2.5	SP-SM	NV	NP	4,5,9	3.2	97	92	5.6
8HSA-42	-5.0	SP	NV	NP	2,3,8	19.2	100	82	2.8
8HSA-42	-7.5	SP	NV	NP	1,2,2	20.3	98	57	1.8
8HSA-42	-10.0	*	*	*	1,0,2	*	*	*	*
8HSA-42	-12.5	SP	NV	NP	1,1,3	15.8	90	28	0.9
8HSA-42	-15.0	SP	NV	NP	3,4,6	16.6	90	37	1.5
8HSA-43	0	SW-SM	NV	NP	2,3,5	0.8	86	55	9.9
8HSA-43	-2.5	SM	NV	NP	3,3,2	10.3	100	94	36
8HSA-43	-5.0	ML	20	1	2,4,3	18.4	-	99	58
8HSA-43	-7.5	SP	NV	NP	3,3,6	19.9	99	89	2.5
8HSA-43	-10.0	SP-SM	NV	NP	2,3,4	18.2	76	53	4.8
8HSA-43	-12.5	SP-SM	NV	NP	2,2,5	16.6	90	43	6.6
8HSA-43	-15.0	SP	NV	NP	1,1,1	11.6	71	16	1.3
8HSA-44	0	SM	NV	NP	12,30,18	2.1	68	50	13
8HSA-44	-2.5	SM	NV	NP	7,9,13	4.2	99	87	17
8HSA-44	-5.0	SM	NV	NP	5,5,5	4.0	95	79	14
8HSA-44	-7.5	SM	NV	NP	5,4,5	3.1	-	99	14
8HSA-44	-10.0	SM	NV	NP	4,3,4	7.8	98	87	35
8HSA-44	-12.5	SP-SM_	NV	NP	2,3,5	4.0	100	84	6.3
8HSA-44	-15.0	SP	NV	NP	3,4,4	16.7	99	71	2.4
8HSA-44	-17.5	SP	NV	NP	2,3,4	20.8	98	41	1.6
8HSA-44	-20.0	SP-SM	NV	NP	1,1,0	21.0	93	78	7.4
8HSA-44	-22.5	SM	NV	NP	2,7,5	22.4	77	75	18
8HSA-44	-25.0	CH	78	56	1,3,5	35.0	100	91	75
8HSA-44	-27.5	CH	52	34	4,3,3	26.1	99	98	66
8HSA-44	-30.0	CL	44	27	2,3,4	20.5	94	91	59
8HSA-45	0	SM	NV	NP	7,10,14	1.7	97	79	17
8HSA-45	-2.5	SC	31	19	5,7,8	17.2	100	95	47
8HSA-45	-5.0	SP-SM	NV	NP	4,5,5	10.9	-	91	12
8HSA-45	-7.5	SC	30	18	3,2,3	24.8	95	72	38
8HSA-45	-10.0	*	*	*	1,2,2	*	*	*	*
8HSA-45	-12.5	*	*	*	1,0,2	*	*	*	*
8HSA-45	-15.0	SP	NV	NP	2,1,3	19.6	97	42	2.4
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Borehole ID	sample `depth	USCS Classifica-	liquid limit	plasticity index	Blow count Per 6"	gravimetric moisture	% finer than US #4 sieve	% finer than US #40 sieve	% finer than US #200 sieve
	(ft.)	tion				content	(by weight)	(by weight)	(by weight)
8HSA-47	0	SM	NV	NP	7,9,10	5.6	87	61	14
8HSA-47	-2.5	SM	NV	NP	4,9,10	6.9	99	90	30
8HSA-47	-5.0	SM	NV	NP	3,8,12	6.9	98	83	26
8HSA-47	-7.5	SM	NV	NP	11,14,14	5.2	99	80	23
8HSA-47	-10.0	SC	28	15	5,3,6	12.2	99	95	39
8HSA-47	-12.5	SP	NV	NP	3,4,5	1.7	-	95	2.3
8HSA-47	-15.0	SP-SM	NV	NP	3,4,7	9.7	-	99	7.9
8HSA-47	-17.5	SP	NV	NP	4,5,9	11.9	59	24	2.6
8HSA-47	-20.0	SP_	NV_	NP	4,7,4	14.7	84	33	2.1
8HSA-47	-22.5	SP	NV	NP	4,4,5	15.5	87	28	2.1
8HSA-47	-25.0	SP	NV	NP	3,6,6	17.5	76	13	2.5
8HSA-47	-27.5	SM	NV	NP	4,4,5	20.7	91	38	19
8HSA-47	-30.0	SM	NV	NP	2,10,15	21.4	100	87	38
8HSA-48	0	ML	NV	NP	4,11,11	3.0	99	95	59
8HSA-48	-2.5	SP-SM	NV	NP	3,5,5	1.1	-	84	11
8HSA-48	-5.0	SP	NV	NP	2,3,5	1.1	99	75	2.7
8HSA-48	-7.5	SP-SM	NV	NP	5,3,2	26.5	100	96	4.8
8HSA-48	-10.0	SP	NV	NP	1,0,1	11.2	74	19	2.4
8HSA-48	-12.5	SP	NV	NP	4,3,6	14.4	75	14	0.6
8HSA-48	-15.0	SP	NV	NP	5,7,8	21.6	-	67	3.0
8HSA-49	0	SM _	NV	NP	10,10,9	4.1	87	64	22
8HSA-49	-2.5	SM	NV	NP	5,6,10	13.0	99	79	37
8HSA-49	-5.0	SM	NV	NP	6,7,10	9.7	98	75	29
8HSA-49	-7.5	SM	NV	NP	7,4,5	9.7	97	80	37
8HSA-49	-10.0	ML	NV	NP	2,2,3	21.2	-	98	74
8HSA-49	-12.5	SM	NV	NP	4,4,10	9.5	-	98	24
8HSA-49	-15.0	SP-SM	NV	NP	4,8,10	7.2	96	59	6.4
8HSA-49	-17.5	SP	NV	NP	4,5,6	11.5	72	20	1,1
8HSA-49	-20.0	SP	NV	NP	2,5,6	12.7	78	22	1.3
8HSA-49	-22.5	SW	NV	NP	3,5,4	17.7	89	27	4.1
8HSA-49	-25.0	SP	NV	NP	4,7,8	0.7	86	21	1.0
8HSA-49	-27.5	SP	NV	NP	2,2,3	19.4	93	11	0.5
8HSA-49	-30.0	*	*	*	5,8,10	*	*	*	*
8HSA-50	0	CH	65	42	3,5,5	8.8	98	78	51
8HSA-50	-2.5	SM	NV	NP	5,7,6	3.9	100	90	31
8HSA-50	-5.0	SP	NV	NP	2,3,4	2.9	93	42	1.7
8HSA-50	-7.5	SP	NV	NP	2,2,3	17.6	84	25	1.1
8HSA-50	-10.0	SP	NV	NP	2,1,2	14.3	80	10	0.3
8HSA-50	-12.5	SP	NV	NP	3,4,4	11.0	67	13	0.0
8HSA-50	-15.0	-	-	-	3,4,7	-	-	-	-
8HSA-51	0	SM	17	3	13,7,6	4.5	89	65	27
8HSA-51	-2.5	CL	27	11	3,3,4	17.0	99	92	77
8HSA-51	-5.0	SC-SM	18	4	4,9,14	12.1	99	88	49
8HSA-51	<u>-7.5</u>	SC-SM	19	5	8,13,17	8.4	99	90	46
8HSA-51	-10.0	CL	28	10	4,7,11	9.5	99	95	81
8HSA-51	-12.5	SP	NV	NP	2,3,5	1.9	98	76	3.9
8HSA-51	-15.0	SP	NV	NP	4,4,6	1.6	98	48	1.8
8HSA-51	-17.5	SW	NV	NP	1,3,5	16.4	89	20	1.4
8HSA-51	-20.0	SP	NV	NP	1,1,1	15.9	87	34	0.8
8HSA-51	-22.5	*	*	*	5,6,6	*	*	*	*
8HSA-51	-25.0	SP	NV	NP	3,9,7	16.6	96	20	0.4
8HSA-51	-27.5	SM	NV	NP	7,8,7	20.4	98	60	14
8HSA-51	-30.0	CL	48	28	2,3,3	29.1	100	96	87
8HSA-52	0	*	*	*	6,10,9	*	*	*	*

Borehole ID	sample `depth (ft.)	USCS Classifica- tion	liquid limit	plasticity index	Blow count Per 6"	gravimetric moisture content	% finer than US #4 sieve (by weight)	% finer than US #40 sieve (by weight)	% finer than US #200 sieve (by weight)
8HSA-52	-2.5	CL	30	13	6,5,6	8.4	100	90	58
8HSA-52	-5.0	SP-SM	NV	NP	2,4,4	4.5	96	34	5.0
8HSA-52	-7.5	SP	NV	NP	2,3,5	11.7	93	37	2.3
8HSA-52	-10.0	SP	NV	NP	1,0,2	16.9	98	51	3.3
8HSA-52	-12.5	SP	NV	NP	4,5,5	15.2	86	33	4.0
8HSA-52	-15.0	SP	NV	NP	2,2,5	14.0	78	21	1.5
8HSA-53	0	SM	NV	NP	20,13,10	2.4	71	42	18
8HSA-53	-2.5	SM	NV	NP	5,3,5	5.3	95	72	26
8HSA-53	-5.0	*	*	*	4,7,7	*	*	*	*
8HSA-53	-7.5	SM	NV	NP	8,10,18	4.8	98	78	30
8HSA-53	-10.0	SM	NV	NP	1,4,7	4.0	99	94	18
8HSA-53	-12.5	SM	NV	NP	5,6,10	1.0	-	100	16
8HSA-53	-12.3 -15.0	SP-SM	NV	NP	6,8,13	1.0	_	96	6.5
8HSA-53	-17.5	SP-SM	NV	NP	5,7,10	9.5	100	84	5.0
8HSA-53	-20.0	SM	NV	NP	5,8,9	23.2	97	82	23
8HSA-53	-20.0	SP	NV	NP	1,3,7	22.2	98	86	2.0
8HSA-53	-25.0	*	*	*	3,5,7	*	*	*	*
8HSA-53	-25.0 -27.5	SC-SM	24	7	2,6,3	22.4	95	54	15
8HSA-53	-30.0	ML	NV	NP	1,1,5	24.5	100	91	54
8HSA-54	0	SM	NV	NP	4,7,9	1.8	88	67	20
8HSA-54	-2.5	SC-SM	20	5	3,3,3	4.2	99	80	40
8HSA-54	-5.0	SM	NV	NP	2,1,3	4.6	93	74	13
8HSA-54	-7.5	SW	NV	NP	4,2,5	6.8	85	26	3.7
8HSA-54	-10.0	SP	NV	NP	1,2,5	14.1	89	21	3.9
8HSA-54	-12.5	SP	NV	NP	2,4,3	17.6	96	46	1.0
8HSA-54	-15.0	SP	NV	NP	3,7,10	22.2	-	91	4.5
8HSA-55	0	SC-SM	23	4	7,16,25	1.9	95	87	43
8HSA-55	-2.5	SM SM	NV	NP	12,16,16	8.7	98	79	29
8HSA-55	-5.0	SC-SM	24	5	9,21,27	13.9	100	91	32
8HSA-55	-3. 0 -7.5	SC-SM	25	8	5,11,17	7.4	99	86	38
8HSA-55	-10.0	SM	20	3	19,31,32	8.1	97	87	42
8HSA-55	-12.5	SC	24	8	10,11,9	4.6	82	71	28
8HSA-55	-15.0	SM	NV	NP	4,2,7	8.4		98	39
8HSA-55	-17.5	SP-SM	NV	NP	9,11,11	9.2	72	29	4.9
8HSA-55	-20.0	SM	NV	NP	2,4,4	12.1	88	23	31
8HSA-55	-22.5	*	*	*	2,2,3	*	*	*	*
8HSA-55	-25.0	SP	NV	NP	3,3,5	12.7	81	24	1.4
8HSA-55	-27.5	SP	NV	NP	3,4,3	14.3	84	22	1.2
8HSA-55	-30.0	SP	NV	NP	2,3,7	12.2	77	13	0.4
8HSA-56	0	SM	NV	NP	2,2,3	1.4	100	90	18
8HSA-56	-2.5	SM	NV	NP	7,10,12	3.8	98	86	35
8HSA-56	-5.0	SP-SM	NV	NP	5,8,11	1.9	60	34	7.4
8HSA-56	-7.5	SP-SC	23	9	3,2,4	14.1	78	37	11
8HSA-56	-10.0	GP	NV	NP	2,0,1	7.4	47	4	0.8
8HSA-56	-12.5	SP	NV	NP	1,1,1	17.2	85	19	1.7
8HSA-56	-15.0	SP	NV	NP	4,4,5	12.8	72	20	1.3
8HSA-57	0	CL-ML	24	6	3,5,17	2.8		96	67
8HSA-57	-2.5	SM	NV	NP	11,12,16	4.3	94	79	32
8HSA-57	-5.0	SM	NV	NP	12,13,16	7.4	99	87	37
8HSA-57	-7.5	SM	NV	NP	9,10,13	7.1	97	88	41
8HSA-57	-10.0	ML	19	2	10,11,17	7.5		96	58
8HSA-57	-12.5	SM	NV	NP	6,7,12	7.5	-	94	49
8HSA-57	-15.0	SM	NV	NP	3,4,9	6.7	99	92	34
8HSA-57	-17.5	SP	NV	NP	3,4,5	16.5	90	35	2.2
onsa-s/	-1/.3	31	1 14 4		1 2,7,3	10.5			

Borehole ID	sample `depth (ft.)	USCS Classifica- tion	liquid limit	plasticity index	Blow count Per 6"	gravimetric moisture content	% finer than US #4 sieve	% finer than US #40 sieve (by weight)	% finer than US #200 sieve (by weight)
8HSA-57	-20.0	SP	NV	NP	2,4,4	16.5	(by weight) 92	32	3.2
8HSA-57	-20.0	SP-SM	NV	NP	3,4,4	12.6	86	37	4.8
8HSA-57	-22.5	SP-SIVI	NV	NP	3,3,5	16.4	88	28	1.6
	-23. 0 -27.5	SP	NV	NP	3,2,4	16.7	90	25	0.7
8HSA-57		SP	NV	NP	4,6,12	15.5	88	34	1.9
8HSA-57 8HSA-58	-30.0 0	SM	18	2	14,17,19	2.7	100	91	46
	-2.5	SM	NV	NP	8,9,11	4.0	100	92	37
8HSA-58		SM	NV	NP NP		5.3	99	90	32
8HSA-58	-5.0		NV	NP NP	8,10,18	4.9		89	26
8HSA-58	-7.5	SM			7,10,20	5.6	93	87	46
8HSA-58	-10.0	SM	NV	NP	8,14,10				53
8HSA-58	-12.5	ML	NV	NP	4,4,7	8.7	-	96	
8HSA-58	-15.0	SP-SM	NV	NP	5,4,11	2.5	100	84	5.6
8HSA-58	-17.5	SP	NV	NP	5,6,12	12.4	95	62	3.7
8HSA-58	-20.0	SP	NV	NP	3,3,9	14.4	97	43	3.1
8HSA-58	-22.5	SP	NV	NP	2,2,1	15.0	86	57	2.9
8HSA-58	-25.0	SP	NV	NP	2,3,4	9.4	72	18	1.1
8HSA-58	-27.5	GP	NV	NP	11,12,10	4.3	32 63	3	1.3
8HSA-58	-30.0	SP	NV	NP	6,5,8	8.6	63	14	1.5
59			2777	775	0.15.10	2.6		0.7	
8HSA-60	0	ML	NV	NP	9,15,13	3.6	-	95	68
8HSA-60	-2.5	ML	NV	NP	13,10,19	7.7	98	93	73
8HSA-60	-5.0	CL-ML	25	6	10,14,17	6.0	-	95	61
8HSA-60	-7.5	CL-ML	26	7	13,14,17	7.2	-	95	64
8HSA-60	-10.0	CL-ML	27	6	7,8,7	5.5	84	82	64
8HSA-60	-12.5	SM	NV	NP	8,10,10	2.5	99	90	28
8HSA-60	-15.0	SM	NV	NP	3,3,5	1.8	98	77	14
8HSA-60	-17.5	SP	NV	NP	6,4,7	1.2	98	61	2.0
8HSA-60	-20.0	SP	NV	NP	3,6,10	9.9	55	27	1.4
8HSA-60	-22.5	SM	NV	NP	4,4,7	19.9	83	28	1.7
8HSA-60	-25.0	SP	NV	NP	4,4,6	15.3	83	28	1.7
8HSA-60	-27.5	SP	NV	NP	4,4,7	15.0	73	22	1.0
8HSA-60	-30.0	SP	NV	NP	4,4,8	12.6	90	34	1.6
8HSA-61	0	CL	27	8	5,12,15	3.0	100	86	63
8HSA-61	-2.5	ML	NV	NP	3,4,7	36.8	100	98	55
8HSA-61	-5.0	CL	29	12	5,6,6	5.7	-	98	69
8HSA-61	-7.5	SM	NV	NP	4,3,8	5.0	99	71	47
8HSA-61	-10.0	SP	NV	NP	2,2,8	8.8	98	40	2.3
8HSA-61	-12.5	SW-SM	NV_	NP	1,1,5	15.5	85	37	9.2
8HSA-61	-15.0	SP	NV	NP	3,5,4	17.4	94	25	1.7
8HSA-62	0	CL-ML	22	7	2,8,12	3.0	100	88	53
8HSA-62	-2.5	SM	NV	NP	3,4,3	3.4	98	86	40
8HSA-62	-5.0	SP	NV	NP	1,3,5	0.8	99	84	2.5
8HSA-62	-7.5	SP	NV	NP	2,3,8	1.3	-	62	1.8
8HSA-62	-10.0	SP	NV	NP	3,3,5	14.8	98	61	1.1
8HSA-62	-12.5	SP	NV	NP	2,1,4	12.9	79	19	1.2
8HSA-62	-15.0	SP	NV	NP	2,3,4	16.8	91	27	1.2
8HSA-63	0	CL	35	17	8,6,13	1.6	99	91	52
8HSA-63	-2.5	SM	NV	NP	15,21,23	1.8	86	71	29
8HSA-63	-5.0	SM	NV	NP	6,24,35	2.3	99	85	37
8HSA-63	-7.5	SM	NV	NP	11,29,33	1.6	99	81	21
8HSA-63	-10.0	SC	30	13	5,10,13	5.6	99	92	48
8HSA-63	-12.5	SM	NV	NP	4,7,6	1.2	-	97	21
8HSA-63	-15.0	SP-SM	NV	NP	4,6,9	0.9	98	66	7.6
8HSA-63	-17.5	SP-SM	NV	NP	6,8,10	1.0	84	42	5.9

Borehole ID	sample `depth	USCS Classifica-	liquid limit	plasticity index	Blow count Per 6"	gravimetric moisture	% finer than US #4 sieve	% finer than US #40 sieve	% finer than US #200 sieve
	(ft.)	tion				content	(by weight)	(by weight)	(by weight)
8HSA-63	-20.0	SP-SM	NV	NP	3,3,4	12.7	84	40	4.7
8HSA-63	-22.5	SP-SM_	NV	NP	3,3,2	12.7	82	40	5.2
8HSA-63	-25.0	SP-SM	NV	NP	2,6,11	12.7	84	42	10
8HSA-63	-27.5	0.4 ft recovere			5,9,15	*	*	*	*
8HSA-63	-30.0	SP-SM	NV	NP	4,5,6	1.9	85	38	7.9
8HSA-63	-32.5	SP-SM	NV	NP	6,13,10	3.1	82	41	8.7
8HSA-63	-35.0	SW-SM	NV	NP	4,8,14	2.1	82	40	8.9
8HSA-63	-37.5	SP-SM	NV	NP	8,7,12	1.9	83	36	4.9
8HSA-63	-40.0	SP-SM	NV	NP	8,17,27	3.0	84	40	8.7
8HSA-63	-42.5	SP-SM	NV	NP	9,15,29	1.9	85	37	4.9
8HSA-63	-45.0	SP-SM	NV	NP	6,11,22	1.9	83	39	5.1
8HSA-64	0	SP-SM	NV	NP	2,3,3	1.4	100	86	12
8HSA-64	-2.5	SP	NV	NP	4,4,5	1.5	95	71	2.7
8HSA-64	-5.0	GP	NV	NP	6,8,8	2.7	48	18	3.8
8HSA-64	-7.5	SP	NV	NP	3,3,4	12.2	73	21	3.8
8HSA-64	-10.0	SP	NV	NP	3,4,6	16.0	79	35	3.4
8HSA-64	-12.5	SP	NV	NP	3,4,6	9.1	80	31	3.7
8HSA-64	-15.0	SP	NV	NP	3,5,6	10.3	85	44	3.6
8HSA-65	0	SM	NV	NP	7,10,9	10.1	87	57	19
8HSA-65	-2.5	SM	NV	NP	7,6,7	4.5	89	66	27
8HSA-65	-5.0	SM	NV	NP	6,9,18	4.5	93	67	25
8HSA-65	-7.5	SM	NV	NP	10,22,36	4.4	91	67	23
8HSA-65	-10.0	SM	NV	NP	9,8,6	5.2	92	86	22
8HSA-65	-12.5	SP-SM	NV	NP	8,9,12	3.4	93	82	9.9
8HSA-65	-15.0	SP-SM	NV	NP	3,6,12	1.4	-	89	5.5
8HSA-65	-17.5	SP-SM	NV	NP	4,7,12	5.9	98	64	6.1
8HSA-65	-20.0	SP	NV	NP	4,4,7	14.4	80	29	1.1
8HSA-65	-22.5	SP-SM	NV	NP	2,0,1	21.9	73	47	11
8HSA-65	-25.0	SM	NV	NP	2,4,6	17.9	100	85	15
8HSA-65	-27.5	SC	25	11	5,3,6	19.4	91	78	33
8HSA-65	-30.0	SP *	NV *	NP *	5,7,8	19.3	94	60 *	2.5
8HSA-65	-32.5	*	*	*	4,5,8	*	*	*	*
8HSA-65	-35.0	<u> </u>	*	*	2,6,10	*	*	*	*
8HSA-65	-37.5	*			7,12,19				
8HSA-65	-40.0	SP	NV	NP	4,8,12	17.1	86	29 62	3.8 19
8HSA-66	0	SM	NV	NP	5,9,8	3.2	89		
8HSA-66	-2.5	SM	NV	NP ND	4,6,7	12.9	97 82	86 41	5.0
8HSA-66	-5.0	SW-SM	NV	NP	3,3,4		69	32	4.3
8HSA-66	-7.5	SP SP	NV	NP NP	6,6,7	1.8 8.3	64	17	2.2
8HSA-66	-10.0		NV NV	NP NP	2,4,3	12.2	95	40	5.0
8HSA-66	-12.5	SP-SM SP	NV	NP NP	2,3,5	10.1	77	30	3.8
8HSA-66	-15.0			NP NP	4,4,5		87	45	18
8HSA-67	0	SM	NV		3,5,7	1.1	84	58	25
8HSA-67	-2.5	SM	NV	NP NP	6,7,8	8.0 4.4	77	47	14
8HSA-67	-5.0 7.5	SM	NV	NP NP	7,10,6	7.4	96	70	22
8HSA-67	-7.5 10.0	SM	NV	NP NP	7,11,14	11.1	96	86	41
8HSA-67	-10.0	SM	NV	NP NP	4,6,7	1.7		97	6.4
8HSA-67	-12.5	SP-SM	NV	NP NP	3,3,4	10.1	96	84	33
8HSA-67	-15.0	SM	NV		1,0,1		84	56	16
8HSA-67	-17.5	SM	NV	NP ND	2,2,8	11.9	84	37	2.7
8HSA-67	-20.0	SP	NV	NP	6,4,6	12.3	89	50	1.4
8HSA-67	-22.5	SP	NV	NP ND	4,11,6	14.7	59	6	
8HSA-67	-25.0	SP	NV	NP	3,6,4	11.5	88	23	2.8
8HSA-67	-27.5	SP	NV	NP	5,8,9	17.4	00		1.6

Borehole ID	sample `depth (ft.)	USCS Classifica- tion	liquid limit	plasticity index	Blow count Per 6"	gravimetric moisture content	% finer than US #4 sieve (by weight)	% finer than US #40 sieve (by weight)	% finer than US #200 sieve (by weight)
8HSA-67	-30.0	SP	NV	NP	3,4,8	17.6	86	19	2.0
8HSA-67	-32.5	GP	NV	NP	8,11,14	10.0	39	14	0.9
8HSA-67	-35.0	SP	NV	NP	6,10,14	14.2	67	23	1.5
8HSA-67	-37.5	*	*	*	5,11,21	*	*	*	*
8HSA-67	-40.0	SP	NV	NP	7,17,25	20.0	99	80	1.3