APPENDIX B1.2

GEOTECHNICAL TEST RESULTS

ADVANCED TERRA TESTING

Moisture & Density Determinations
ASTM D 2216 & D 2937

CLIENT:	MWH	JOB NO.	2512-77
PROJECT	Church Rock	LOCATION	NECR
PROJECT NO.	--		

BORING NO.	NECR2-CC07	SF3-CC01	N2D-CC01	NECR2-CC01
DEPTH	6-6.5'	6-6.5'	11-11.5'	5.5-6.0'
SAMPLE NO.	NECR2-CC07-001b	SF3-CC01-002a	N2D-CC01-003a	NECR2-CC01-001a
DATE SAMPLED	10/30/2013	10/30/2013	10/30/2013	10/30/2013
DATE TESTED	11/15/2013	11/15/2013	11/15/2013	11/15/2013
LOCATION	NECR2	SANDFILL3	NECRDRAIN	NECR2
DENSITY DETERMINATIONS				
Sample Height (IN)	5.812	5.726	5.802	5.995
Sample Diameter (IN)	1.929	1.922	1.929	1.928
Wt of Wet Soil (GMs)	462.90	464.36	425.18	489.32
Sample Volume (CU Ft)	0.00983	0.00961	0.00981	0.01013
WET DENSITY (PCF)	103.8	106.5	95.5	106.5
DRY DENSITY (PCF)	101.0	96.4	91.8	99.1
MOISTURE DETERMINATIONS				
Wt. of Wet Soil & Dish (gms)	472.25	472.80	431.72	495.90
Wt. of Dry Soil & Dish (gms)	459.88	428.62	415.31	461.98
Net Loss of Moisture (gms)	12.37	44.18	16.41	33.92
Wt. of Dish (gms)	9.35	8.44	6.54	6.58
Wt. of Dry Soil (gms)	450.53	420.18	408.77	455.40
Moisture Content (%)	2.7	10.5	4.0	7.4

BORING NO.	SF3-CC01	SF3-CC01
DEPTH	3.5-4'	11-11.5'
SAMPLE NO.	SF3-CC01-001a	SF3-CC01-003a
DATE SAMPLED	10/30/2013	10/30/2013
DATE TESTED	11/15/2013	11/15/2013
LOCATION	SANDFILL3	SANDFILL3
DENSITY DETERMINATIONS		
Sample Height (IN)	5.049	5.649
Sample Diameter (IN)	1.933	1.929
Wt of Wet Soil (GMs)	451.90	391.33
Sample Volume (CU Ft)	0.00857	0.00955
WET DENSITY (PCF)	116.2	90.3
DRY DENSITY (PCF)	99.3	83.5
MOISTURE DETERMINATIONS		
Wt. of Wet Soil & Dish (gms)	458.44	397.92
Wt. of Dry Soil & Dish (gms)	392.63	368.34
Net Loss of Moisture (gms)	65.81	29.58
Wt. of Dish (gms)	6.54	6.59
Wt. of Dry Soil (gms)	386.09	361.75
Moisture Content (%)	17.0	8.2

Data entry by:	CJW	Date:	11/18/2013
Checked by:	Cjc	Date:	11/18/2013
File name:	M&D-ASTMD-2216-2937-R0-AsnSheet1P2.xls		

ATT
ADVANCED TERRA TESTING

Moisture & Density Determinations
ASTM D 2216 & D 2937

CLIENT:	MWH	JOB NO.	2512-77
PROJECT	Church Rock	LOCATION	NECR
PROJECT NO.	--		

BORING NO.	N2D-CC01	NECR2-CC05	N2D-CC01	NECR2-CC05
DEPTH	3.5 -4'	5-5.5'	6-6.5'	2.5-3'
SAMPLE NO.	N2D-CC01-001a	NECR2-CC05	N2D-CC01-002a	NECR2-CC05-002
DATE SAMPLED	10/30/2013	10/29/2013	10/30/2013	10/29/2013
DATE TESTED	11/15/2013	11/15/2013	11/15/2013	11/15/2013
LOCATION	NECR2DRAIN	NECR2	NECR2DRAIN	NECR2
DENSITY DETERMINATIONS				
Sample Height (IN)	5.986	NA	5.213	2.207
Sample Diameter (IN)	1.927	NA	1.917	1.925
Wt of Wet Soil (GMs)	454.06	NA	360.54	170.87
Sample Volume (CU Ft)	0.01010	NA	0.00871	0.00372
WET DENSITY (PCF)	99.1	Disturbed	91.3	101.3
DRY DENSITY (PCF)	91.2	MC Only	87.2	93.7
MOISTURE DETERMINATIONS				
Wt. of Wet Soil & Dish (gms)	463.61	246.09	368.98	364.25
Wt. of Dry Soil & Dish (gms)	427.70	224.51	352.72	337.53
Net Loss of Moisture (gms)	35.91	21.58	16.26	26.72
Wt. of Dish (gms)	9.55	9.27	8.44	8.49
Wt. of Dry Soil (gms)	418.15	215.24	344.28	329.04
Moisture Content (%)	8.6	10.0	4.7	8.1

BORING NO.	NECR2-CC07	NECR2-006	NECR2-CC07	NECR2-CC06
DEPTH	5.5-6'	3.5-4'	10-10.5'	3-3.5'
SAMPLE NO.	NECR2-CC07-001b	NECR2-006-001a	NECR2-CC07-002a	NECR2-CC06-001b
DATE SAMPLED	10/30/2013	10/30/2013	10/30/2013	10/30/2013
DATE TESTED	11/15/2013	11/15/2013	11/15/2013	11/15/2013
LOCATION	NECR2	NECR2	NECR2	NECR2
DENSITY DETERMINATIONS				
Sample Height (IN)	5.992	5.757	5.246	5.730
Sample Diameter (IN)	1.920	1.928	1.921	1.925
Wt of Wet Soil (GMs)	482.25	467.05	403.55	475.35
Sample Volume (CU Ft)	0.01004	0.00973	0.00880	0.00965
WET DENSITY (PCF)	105.9	105.9	101.1	108.6
DRY DENSITY (PCF)	101.3	101.1	97.1	103.4
MOISTURE DETERMINATIONS				
Wt. of Wet Soil & Dish (gms)	491.56	476.34	412.78	483.77
Wt. of Dry Soil & Dish (gms)	470.63	455.18	396.73	461.18
Net Loss of Moisture (gms)	20.93	21.16	16.05	22.59
Wt. of Dish (gms)	9.31	9.29	9.23	8.42
Wt. of Dry Soil (gms)	461.32	445.89	387.50	452.76
Moisture Content (%)	4.5	4.7	4.1	5.0

Data entry by:	CJW	Date:	11/17/2013
Checked by:	btc	Date:	11/18/2013
File name:	M&D-ASTMD-2216-2937-R0-AsnSheet1P1.xls		

ATT
ADVANCED TERRA TESTING

Moisture & Density Determinations
ASTM D 2216 & D 2937

CLIENT:	MWH	JOB NO.	2512-77
PROJECT	Church Rock	LOCATION	NECR
PROJECT NO.	--		

BORING NO.	SP-CC13	SP-CC13
DEPTH	11-11.5'	15.5-16.0'
SAMPLE NO.	SP-CC13-002a (11-11.5)	SP-CC13-003a (15.5-16)
DATE SAMPLED	11/11/13 MWH	11/11/13 MWH
DATE TESTED	11/17/13 CJW	11/17/13 CJW
LOCATION	SEDPAD	SEDPAD
DENSITY DETERMINATIONS		
Sample Height (IN)	5.880	5.709
Sample Diameter (IN)	1.938	1.913
Wt of Wet Soil (GMs)	474.81	449.00
Sample Volume (CU Ft)	0.01004	0.00950
WET DENSITY (PCF)	104.3	104.2
DRY DENSITY (PCF)	100.8	97.5
MOISTURE DETERMINATIONS		
Wt. of Wet Soil & Dish (gms)	481.37	445.23
Wt. of Dry Soil & Dish (gms)	465.29	416.79
Net Loss of Moisture (gms)	16.08	28.44
Wt. of Dish (gms)	6.57	6.63
Wt. of Dry Soil (gms)	458.72	410.16
Moisture Content (%)	3.5	6.9

Data entry by: CAL Date: 11/18/2013
Checked by: CJW Date: 11/19/2013
File name: M&D-ASTMD-2216-2937-R0-AsnSheet2P2.xls

ATT ADVANCED TERRA TESTING

Moisture & Density Determinations
ASTM D 2216 & D 2937

CLIENT:	MWH	JOB NO.	2512-77
PROJECT	Church Rock	LOCATION	NECR
PROJECT NO.	--		

BORING NO.	NECR1-CC17	NECR1-CC17	NECR1-CC17	NECR1-CC17
DEPTH	5.5-6.0'	10.5-11.0'	15.5-16.0'	20.5-21.0'
SAMPLE NO.	NECR1-CC17-001B (5.5-6.0)	NECR1-CC17-002b(10.5-11)	NECR1-CC17-003b(15.5-16)	NECR1-CC17-004b(20.5-21)
DATE SAMPLED	11/07/13 MWH	11/07/13 MWH	11/07/13 MWH	11/07/13 MWH
DATE TESTED	11/17/13 CJW	11/17/13 CJW	11/17/13 CJW	11/17/13 CJW
LOCATION	NECR1	NECR1	NECR1	NECR1
DENSITY DETERMINATIONS				
Sample Height (IN)	5.779	5.672	5.702	5.811
Sample Diameter (IN)	1.937	1.933	1.939	1.936
Wt of Wet Soil (GMs)	432.79	447.40	481.39	512.32
Sample Volume (CU Ft)	0.00986	0.00963	0.00974	0.00990
WET DENSITY (PCF)	96.8	102.4	108.9	114.1
DRY DENSITY (PCF)	92.3	96.5	106.7	95.8
MOISTURE DETERMINATIONS				
Wt. of Wet Soil & Dish (gms)	439.34	456.69	490.67	521.61
Wt. of Dry Soil & Dish (gms)	419.09	430.76	456.45	439.59
Net Loss of Moisture (gms)	20.25	25.93	9.28	82.02
Wt. of Dish (gms)	6.55	9.29	0.00	9.29
Wt. of Dry Soil (gms)	412.54	421.47	456.45	430.30
Moisture Content (%)	4.9	6.2	2.0	19.1

BORING NO.	NMSA-CC02	NMSA-CC02	NMSA-CC02	SP-CC13
DEPTH	3-3.5'	6-6.5'	10.5-11.0'	5.5-6'
SAMPLE NO.	NMSA-CC02-001b (3-3.5)	NMSA-CC02-002a (6-6.5)	NMSA-CC02-003b (10.5-11)	SP-CC13-001b (5.5-6)
DATE SAMPLED	11/08/13 MWH	11/08/13 MWH	11/08/13 MWH	11/11/13 MWH
DATE TESTED	11/17/13 CJW	11/17/13 CJW	11/17/13 CJW	11/17/13 CJW
SOIL DESCRIPTION	NMSA	NMSA	NMSA	SEDPAD
DENSITY DETERMINATIONS				
Sample Height (IN)	5.608	5.227	5.891	5.805
Sample Diameter (IN)	1.925	1.922	1.934	1.934
Wt of Wet Soil (GMs)	512.20	465.85	452.18	500.18
Sample Volume (CU Ft)	0.00945	0.00878	0.01001	0.00987
WET DENSITY (PCF)	119.6	117.0	99.5	111.7
DRY DENSITY (PCF)	110.6	97.5	86.6	101.4
MOISTURE DETERMINATIONS				
Wt. of Wet Soil & Dish (gms)	521.74	475.17	460.65	508.64
Wt. of Dry Soil & Dish (gms)	483.22	397.64	401.71	462.43
Net Loss of Moisture (gms)	38.52	77.53	58.94	46.21
Wt. of Dish (gms)	9.54	9.32	8.47	8.46
Wt. of Dry Soil (gms)	473.68	388.32	393.24	453.97
Moisture Content (%)	8.1	20.0	15.0	10.2

Data entry by:	CAL	Date:	11/18/2013
Checked by:	CJ	Date:	11/19/2013
File name:	M&D-ASTMD-2216-2937-R0-AsnSheet2P1.xls		

ATT
ADVANCED TERRA TESTING

SPECIFIC GRAVITY TESTS ASTM D 854

CLIENT: MWH JOB NO. 2512-77

PROJECT: Church Rock

BORING NO.	SF2-CC01	NECR1-CC01	NECR2-CC07	SF3-CC01
DEPTH	0-10'	10-20'	0-10'	0-10'
SAMPLE NO.	SF-CC01-BULK(0-1)	NECR1-CC01-BULK0-20)	NECR2-CC07-BULK(0-10)	SF3-CC01-004-BULK(0-10)
DATE SAMPLED	10/29/13 MWH	10/30/13 MWH	10/30/13 MWH	10/30/13 MWH
DATE TESTED	11/22/13 CAL	11/22/13 CAL	11/22/13 CAL	11/22/13 CAL
LOCATION	Sandfill 2	NECR1	NECR2	Sandfill 3
Pycnometer #	FF	1	SS	EE
Weight of oven dry soil (g) (Wo)	30.382	30.888	30.050	30.107
Weight of flask, soil, and water. (g) (Wb)	183.789	181.356	187.398	182.404
Temperature (deg. C) (Tx)	18.9	19.0	19.0	19.0
Weight of water & flask at Tx (from cal. curve)(Wa)	164.874	162.008	168.450	163.537
Specific Gravity*	2.65	2.68	2.71	2.68

*Specific Gravity = Wo/[Wo+(Wa-Wb)]

Data entry by: CAL Date: 12/03/2013

Data checked by: KR Date: 12/5/13

FileName: MWSGAS11

ADVANCED TERRA TESTING, INC. ATT

SPECIFIC GRAVITY TESTS ASTM D 854

CLIENT: MWH JOB NO. 2512-77

PROJECT: Church Rock

BORING NO.	NMSA-CC04	P2-CC04	SP-CC13
DEPTH	0-15'	0-3'	0-15'
SAMPLE NO.	NMSA-CC04-BULK(0-15)	P2-CC04-BULK(0-3)	SP-CC13-BULK(0-15)
DATE SAMPLED	11/08/13 MWH	11/11/13 MWH	11/11/13 MWH
DATE TESTED	11/22/13 CAL	11/26/13 CAL	11/26/13 CAL
LOCATION	NMSA	POND2	SEDPAD
Pycnometer #	AA	AA	1
Weight of oven dry soil (g) (Wo)	30.310	30.628	30.614
Weight of flask, soil, and water. (g) (Wb)	183.999	184.157	180.890
Temperature (deg. C) (Tx)	19.2	20.5	21.0
Weight of water & flask at Tx (from cal. curve)(Wa)	165.084	165.056	161.946
Specific Gravity*	2.66	2.66	2.62

*Specific Gravity = Wo/[Wo+(Wa-Wb)]

Data entry by: CAL Date: 12/03/2013

Data checked by: KR Date: 12/5/13

FileName: MWSGAS21

ADVANCED TERRA TESTING, INC. ATT

Specific Gravity
ASTM D 854 - Method B

CLIENT:	MWH	JOB NO.	2512-77
PROJECT	Church Rock	LOCATION	Pond 3
PROJECT NO.	-		

BORING NO.	P3-CC07
DEPTH	0-5
SAMPLE NO.	P3-CC07-Bulk (0-5)
DATE SAMPLED	-
DATE TESTED	3/14/14 SKL

Pycnometer #	Big 9
Weight of oven dry soil (g) (Wo)	45.94
Weight of flask, soil, and water. (g) (Wb)	703.28
Temperature (deg. C) (Tx)	23.5
Weight of water & flask at Tx (from cal. curve)(Wa)	674.82
Specific Gravity*	2.63

*Specific Gravity = Wo/[Wo+(Wa-Wb)]

Data entry by: SKL Date: 3/14/2014
Checked by: BKL Date: 3/14/14
File name: 2512_77_SpecificGravity-ASTM-854-R1_9.xls

ATT
ADVANCED TERRA TESTING

COMPACTION TEST
ASTM D 698 A

CLIENT:	MWH		JOB NO. 2512-77
BORING NO.	NECR1-CC01	DATE SAMPLED	10/30/13 MWH
DEPTH	10-20'	DATE TESTED	11/19/13 CAL
SAMPLE NO.	NECR1-CC01-BULK	LOCATION	NECR1
PROJECT	Church Rock		

Moisture Determination

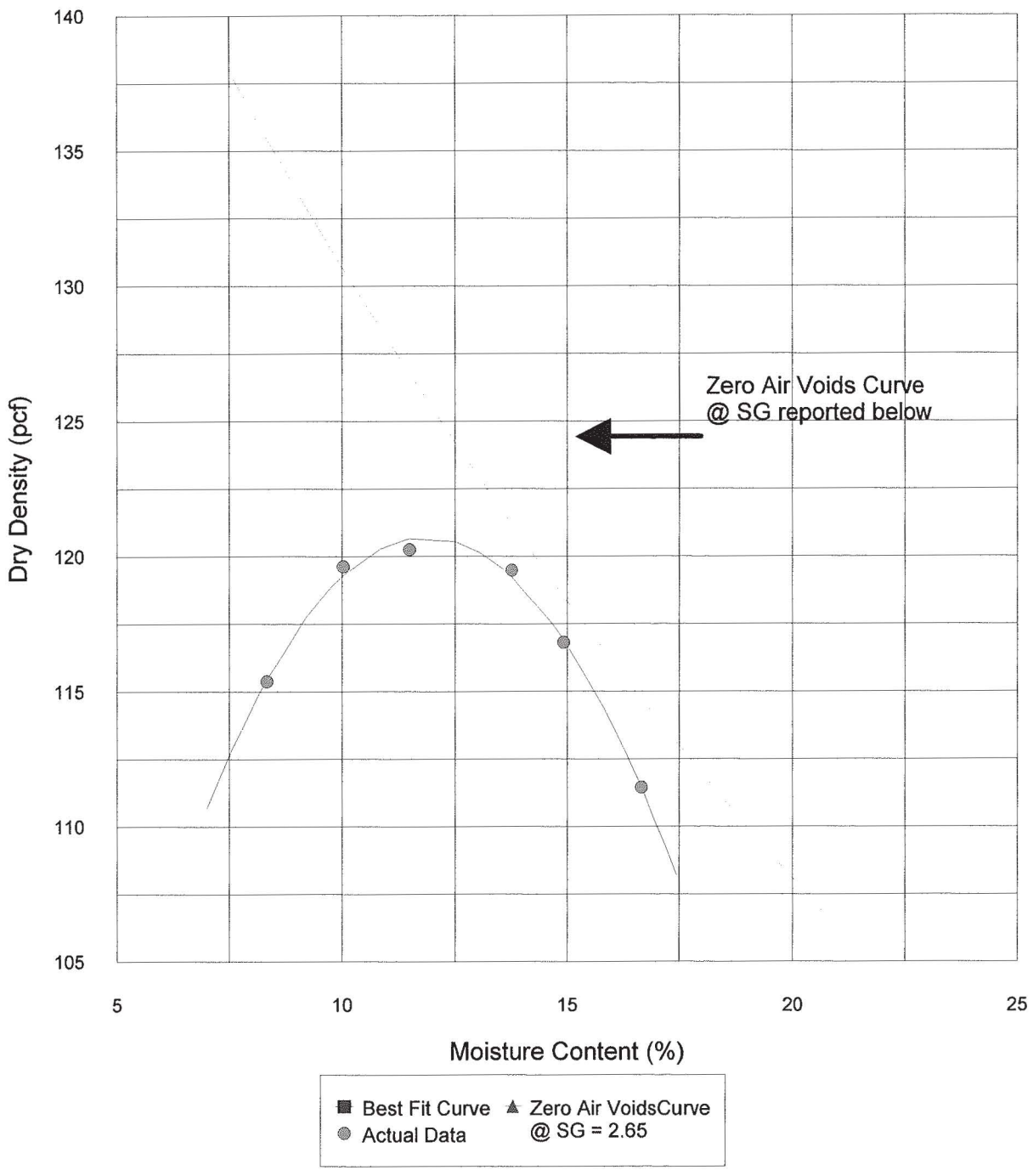
	1	2	3	4	5	6
Wt of Moisture added (ml)	200.00	160.00	120.00	80.00	40.00	0.00
Wt. of soil & dish (g)	512.31	489.06	397.85	647.91	459.96	466.13
Dry wt. soil & dish (g)	430.77	418.04	344.27	572.38	412.64	425.75
Net loss of moisture (g)	81.54	71.02	53.58	75.53	47.32	40.38
Wt. of dish (g)	9.48	8.44	9.23	6.55	6.56	8.45
Net wt. of dry soil (g)	421.29	409.60	335.04	565.83	406.08	417.30
Moisture Content (%)	19.35	17.34	15.99	13.35	11.65	9.68
Corrected Moisture Content	16.66	14.92	13.76	11.49	10.03	8.33
Density determination						
Wt of soil & mold (lb)	14.46	14.61	14.67	14.60	14.51	14.27
Wt. of mold (lb)	10.25	10.25	10.25	10.25	10.25	10.25
Net wt. of wet soil (lb)	4.21	4.36	4.42	4.35	4.26	4.02
Net wt of dry soil (lb)	3.53	3.72	3.81	3.84	3.82	3.67
Dry Density, (pcf)	105.82	111.47	114.32	115.13	114.46	109.96
Corrected Dry Density (pcf)	111.45	116.81	119.49	120.25	119.62	115.38
Volume Factor	30	30	30	30	30	30

Data entered by: CAL Date: 11/22/2013
Data checked by: KE Date: 12/3/13
FileName: MWD698-4

ADVANCED TERRA TESTING, INC.
ATT

Proctor Compaction Test

NECR1-CC01, 10-20', NECR1-CC01-BULK



OPTIMUM MOISTURE CONTENT = 11.9 MAXIMUM DRY DENSITY = 120.7
ASTM D 698 A, Rock correction applied? Y

COMPACTION TEST
ASTM D 698 A

CLIENT:	MWH		JOB NO. 2512-77
BORING NO.	NECR2-CC05	DATE SAMPLED	10/29/13 MWH
DEPTH	0-10'	DATE TESTED	11/20/13 CAL
SAMPLE NO.	NECR2-CC05-BULK(0-10)	LOCATION	NECR2
PROJECT	Church Rock		

Moisture Determination

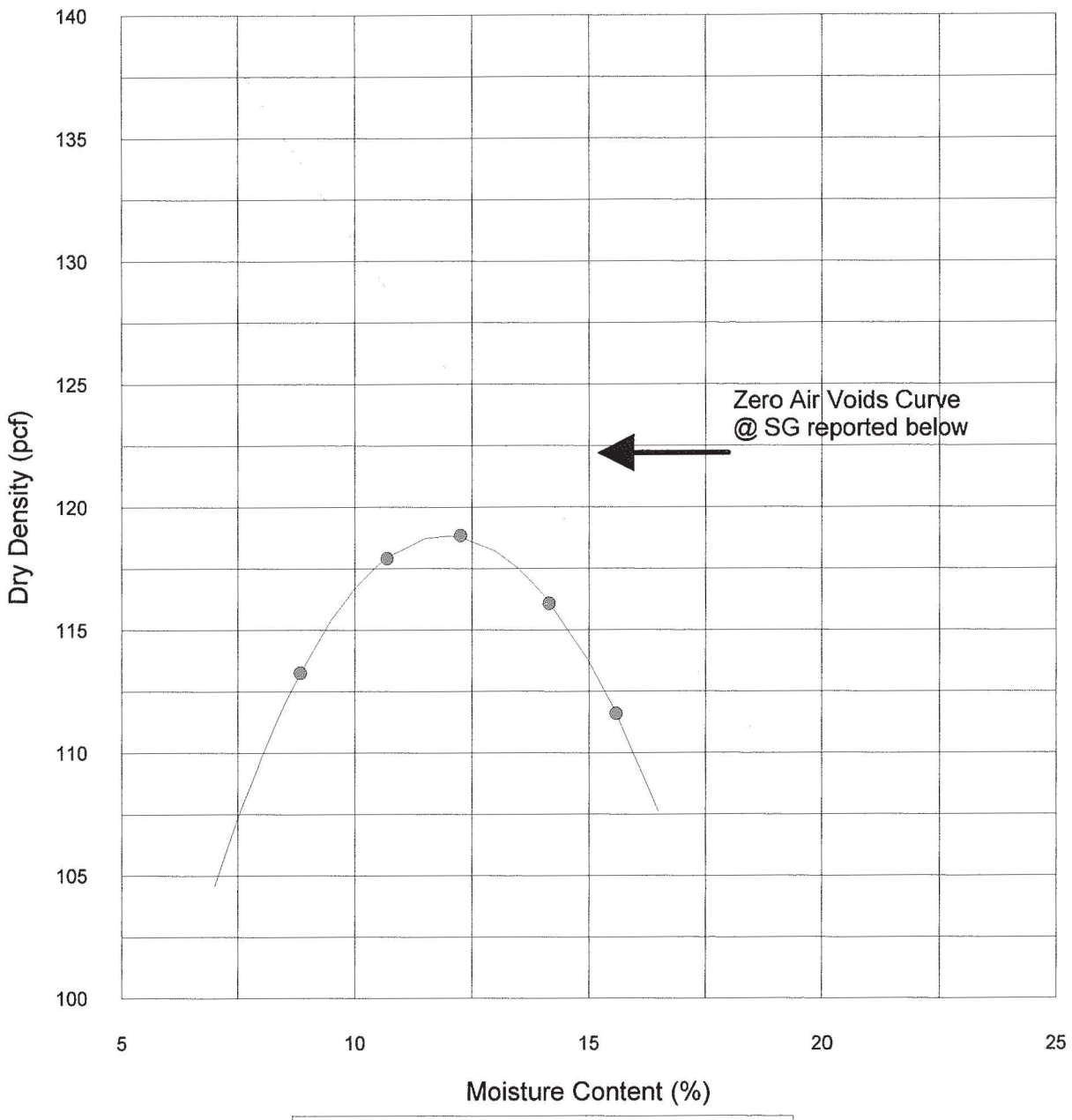
	1	2	3	4	5
Wt of Moisture added (ml)	0.00	40.00	80.00	120.00	160.00
Wt. of soil & dish (g)	530.56	604.79	499.68	483.58	571.50
Dry wt. soil & dish (g)	485.68	543.80	442.92	421.27	491.30
Net loss of moisture (g)	44.88	60.99	56.76	62.31	80.20
Wt. of dish (g)	6.54	6.55	6.53	6.58	6.61
Net wt. of dry soil (g)	479.14	537.25	436.39	414.69	484.69
Moisture Content (%)	9.37	11.35	13.01	15.03	16.55
Corrected Moisture Content	8.83	10.70	12.25	14.15	15.59
Density determination					
Wt of soil & mold (lb)	9.41	9.66	9.76	9.73	9.61
Wt. of mold (lb)	5.36	5.36	5.36	5.36	5.36
Net wt. of wet soil (lb)	4.05	4.30	4.40	4.37	4.25
Net wt of dry soil (lb)	3.70	3.86	3.89	3.80	3.65
Dry Density, (pcf)	111.09	115.85	116.81	113.97	109.40
Corrected Dry Density (pcf)	113.26	117.91	118.84	116.08	111.60
Volume Factor	30	30	30	30	30

Data entered by: CAL Date: 11/22/2013
Data checked by: KL Date: 12/3/13
FileName: MWD698-6

ADVANCED TERRA TESTING, Inc. ATT

Proctor Compaction Test

NECR2-CC05, 0-10', NECR2-CC05-BULK(0-10)



OPTIMUM MOISTURE CONTENT = 11.9 MAXIMUM DRY DENSITY = 118.8
ASTM D 698 A, Rock correction applied? Y

COMPACTION TEST
ASTM D 698 A

CLIENT:	MWH		JOB NO. 2512-77
BORING NO.	SF3-CC01	DATE SAMPLED	10/30/13 MWH
DEPTH	0-10'	DATE TESTED	11/19/13 CAL
SAMPLE NO.	SF3-CC01-004-BULK	LOCATION	Sandfill 3
PROJECT	Church Rock		

Moisture Determination

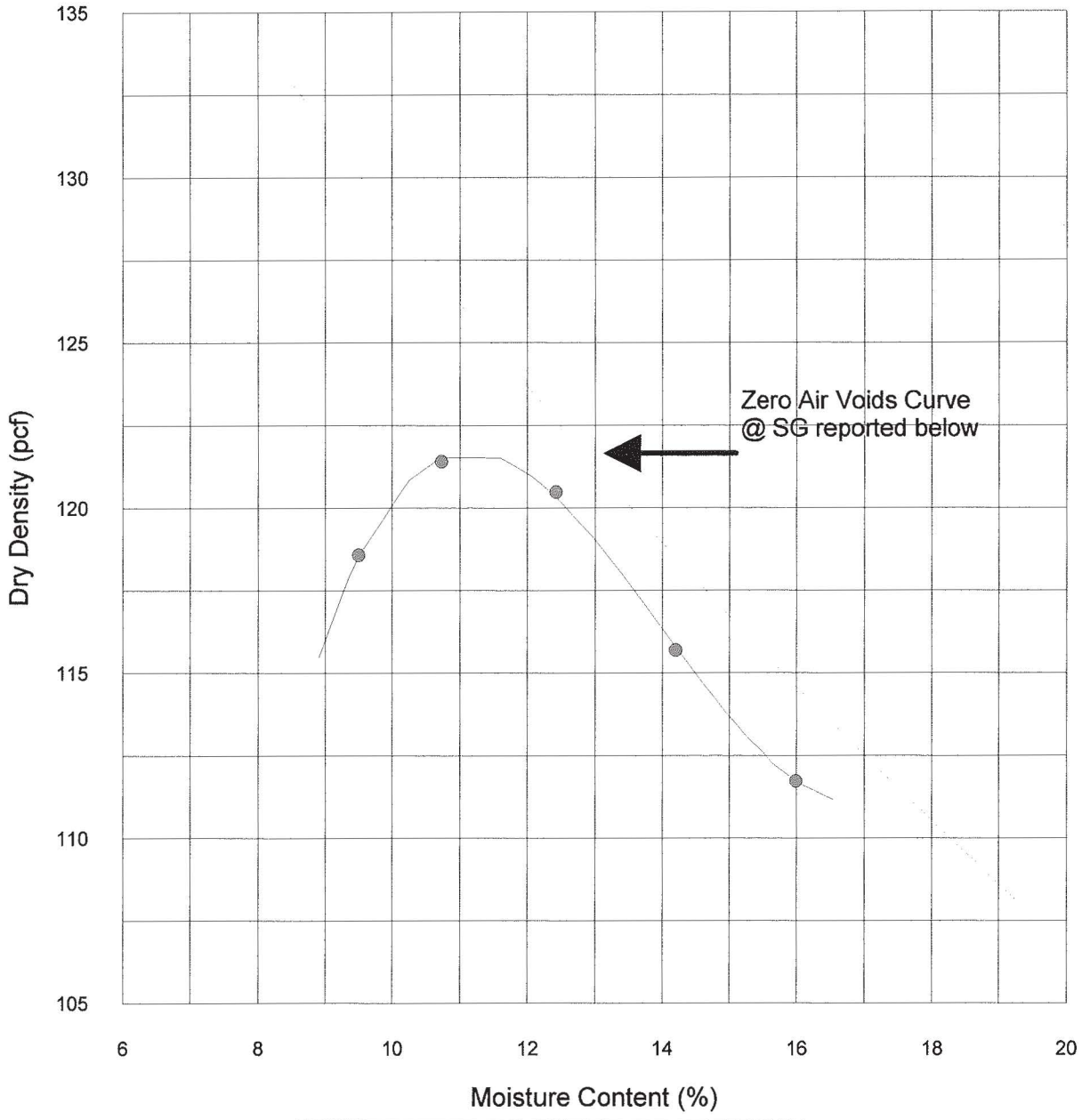
	1	2	3	4	5
Wt of Moisture added (ml)	160.00	120.00	80.00	40.00	0.00
Wt. of soil & dish (g)	511.46	457.01	542.53	487.40	565.67
Dry wt. soil & dish (g)	430.43	391.92	473.59	433.08	508.96
Net loss of moisture (g)	81.03	65.09	68.94	54.32	56.71
Wt. of dish (g)	6.55	8.47	9.28	9.29	9.28
Net wt. of dry soil (g)	423.88	383.45	464.31	423.79	499.68
Moisture Content (%)	19.12	16.97	14.85	12.82	11.35
Corrected Moisture Content	15.99	14.20	12.42	10.73	9.50
Density determination					
Wt of soil & mold (lb)	14.43	14.52	14.64	14.60	14.43
Wt. of mold (lb)	10.25	10.25	10.25	10.25	10.25
Net wt. of wet soil (lb)	4.18	4.27	4.39	4.35	4.18
Net wt of dry soil (lb)	3.51	3.65	3.82	3.86	3.75
Dry Density, (pcf)	105.28	109.51	114.67	115.67	112.62
Corrected Dry Density (pcf)	111.73	115.70	120.48	121.41	118.58
Volume Factor	30	30	30	30	30

Data entered by: CAL Date: 11/20/2013
Data checked by: CW Date: 11/20/2013
FileName: MWD698-5

ADVANCED TERRA TESTING, INC. ATT

Proctor Compaction Test

SF3-CC01, 0-10', SF3-CC01-004-BULK



OPTIMUM MOISTURE CONTENT = 11.1 MAXIMUM DRY DENSITY = 121.7
ASTM D 698 A, Rock correction applied? Y

COMPACTION TEST
ASTM D 698 A

CLIENT:	MWH		JOB NO. 2512-77
BORING NO.	N2D-CC01	DATE SAMPLED	10/30/13 MWH
DEPTH	0-10'	DATE TESTED	11/19/13 CAL
SAMPLE NO.	ND2-CC01-004-BULK	LOCATION	NECR2DRAIN
PROJECT	Church Rock		

Moisture Determination

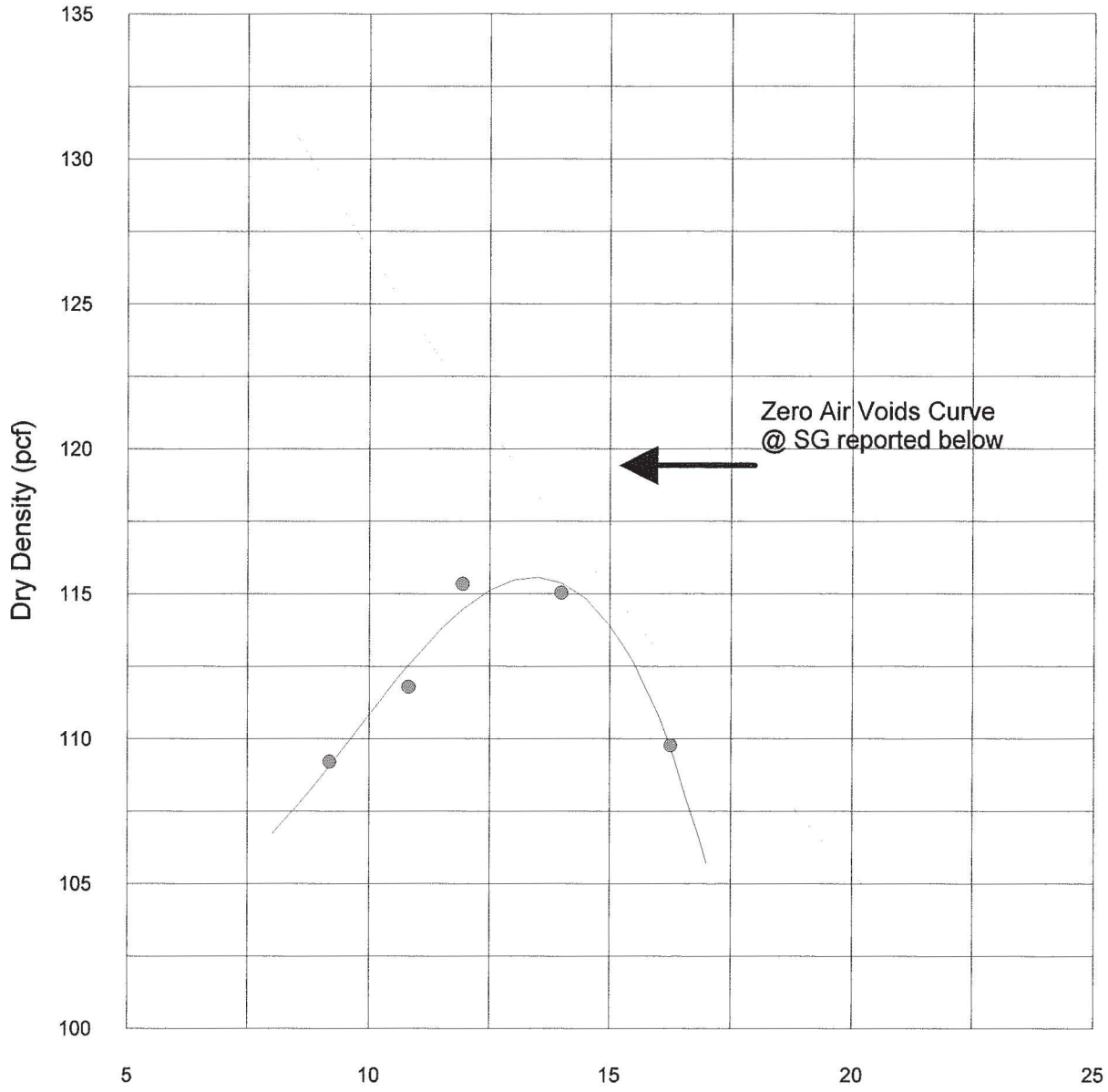
	1	2	3	4	5
Wt of Moisture added (ml)	240.00	200.00	120.00	160.00	80.00
Wt. of soil & dish (g)	339.84	514.11	540.07	494.69	560.97
Dry wt. soil & dish (g)	290.85	448.56	485.15	439.82	511.77
Net loss of moisture (g)	48.99	65.55	54.92	54.87	49.20
Wt. of dish (g)	6.58	6.55	6.55	6.56	6.55
Net wt. of dry soil (g)	284.27	442.01	478.60	433.26	505.22
Moisture Content (%)	17.23	14.83	11.48	12.66	9.74
Corrected Moisture Content	16.25	13.98	10.82	11.94	9.18
Density determination					
Wt of soil & mold (lb)	9.58	9.70	9.45	9.63	9.29
Wt. of mold (lb)	5.37	5.37	5.37	5.37	5.37
Net wt. of wet soil (lb)	4.21	4.33	4.08	4.26	3.92
Net wt of dry soil (lb)	3.59	3.77	3.66	3.78	3.57
Dry Density, (pcf)	107.73	113.12	109.80	113.43	107.16
Corrected Dry Density (pcf)	109.77	115.04	111.79	115.34	109.22
Volume Factor	30	30	30	30	30

Data entered by: CAL Date: 11/20/2013
Data checked by: CJ Date: 11/20/2013
FileName: MHD698-1

ADVANCED TERRA TESTING, INC.
ATT

Proctor Compaction Test

N2D-CC01, 0-10', ND2-CC01-004-BULK



OPTIMUM MOISTURE CONTENT = 13.4 MAXIMUM DRY DENSITY = 115.6
ASTM D 698 A, Rock correction applied? Y

COMPACTION TEST
ASTM D 698 A

CLIENT:	MWH		JOB NO. 2512-77
BORING NO.	SF2-CC01	DATE SAMPLED	10/29/13 MWH
DEPTH	0-10'	DATE TESTED	11/19/13 CAL
SAMPLE NO.	SF2-CC01-BULK	LOCATION	Sandfill 2
PROJECT	Church Rock		

Moisture Determination

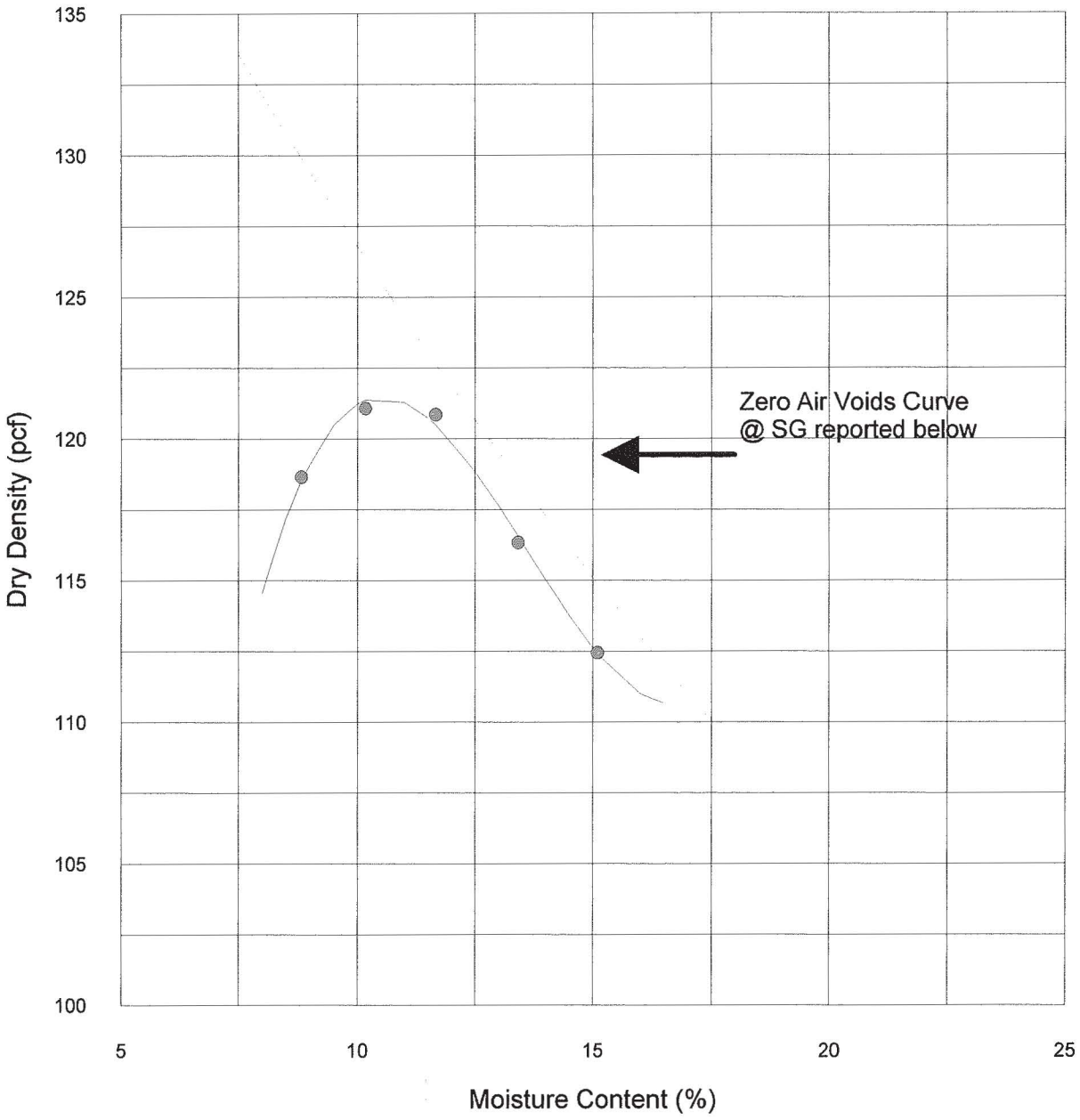
	1	2	3	4	5
Wt of Moisture added (ml)	240.00	200.00	160.00	120.00	80.00
Wt. of soil & dish (g)	385.56	540.26	677.11	671.10	583.45
Dry wt. soil & dish (g)	327.35	466.25	594.71	598.75	528.20
Net loss of moisture (g)	58.21	74.01	82.40	72.35	55.25
Wt. of dish (g)	6.46	6.54	6.56	6.58	6.58
Net wt. of dry soil (g)	320.89	459.71	588.15	592.17	521.62
Moisture Content (%)	18.14	16.10	14.01	12.22	10.59
Corrected Moisture Content	15.10	13.41	11.67	10.18	8.83
Density determination					
Wt of soil & mold (lb)	14.43	14.52	14.63	14.57	14.41
Wt. of mold (lb)	10.25	10.25	10.25	10.25	10.25
Net wt. of wet soil (lb)	4.18	4.27	4.38	4.32	4.16
Net wt of dry soil (lb)	3.54	3.68	3.84	3.85	3.76
Dry Density, (pcf)	106.15	110.34	115.25	115.49	112.85
Corrected Dry Density (pcf)	112.45	116.34	120.86	121.08	118.66
Volume Factor	30	30	30	30	30

Data entered by: CAL Date: 11/20/2013
Data checked by: CJ Date: 11/20/2013
FileName: MWD698-3

ADVANCED TERRA TESTING, INC. ATT

Proctor Compaction Test

SF2-CC01, 0-10', SF2-CC01-BULK



OPTIMUM MOISTURE CONTENT = 10.5 MAXIMUM DRY DENSITY = 121.5
ASTM D 698 A, Rock correction applied? Y

COMPACTION TEST
ASTM D 698 A

CLIENT:	MWH		JOB NO. 2512-77
BORING NO.	NECR2-CC07	DATE SAMPLED	10/30/13 MWH
DEPTH	0-10'	DATE TESTED	11/19/13 CAL
SAMPLE NO.	NECR2-CC07-BULK	LOCATION	NECR2
PROJECT	Church Rock		

Moisture Determination

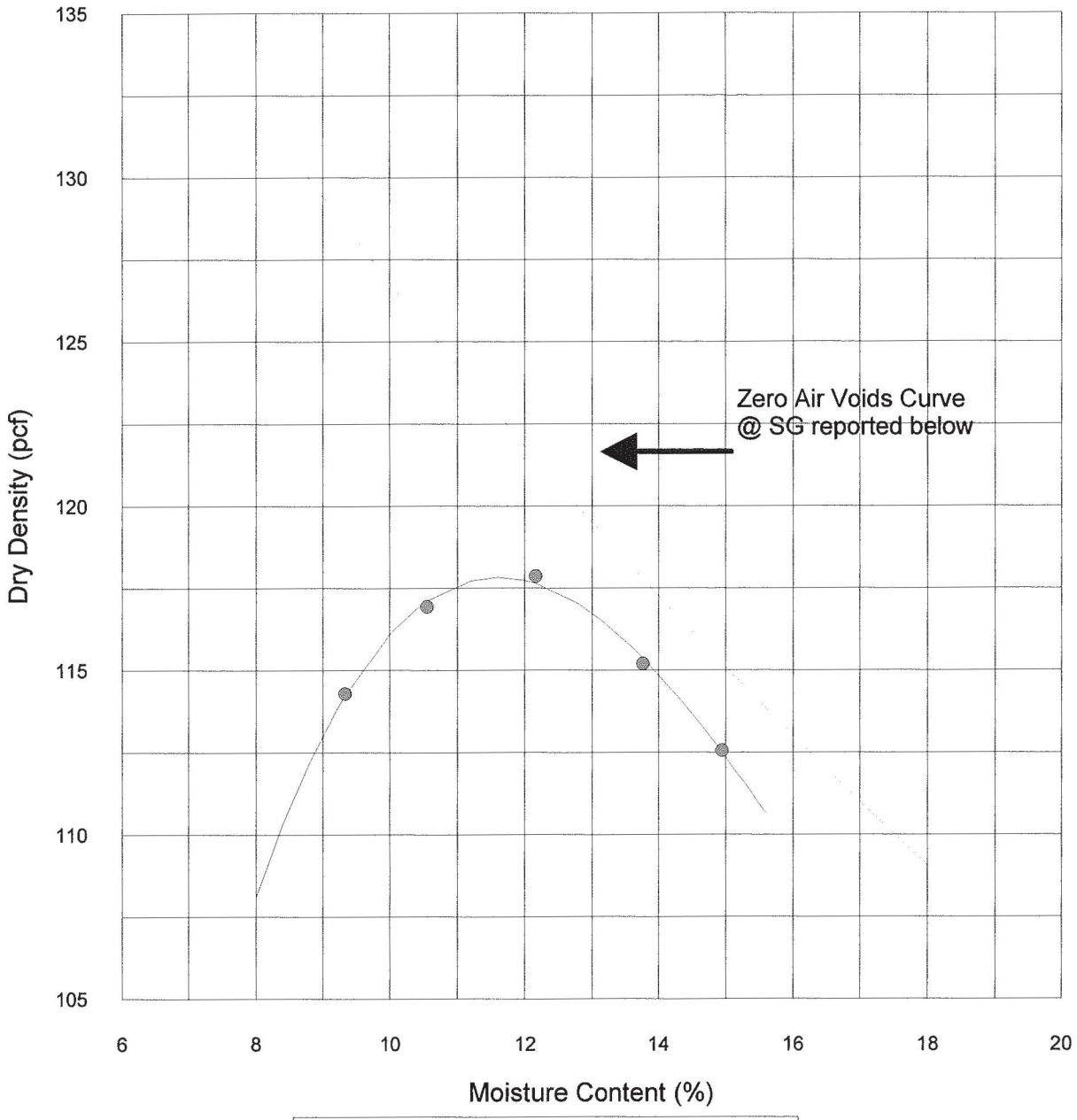
	1	2	3	4	5
Wt of Moisture added (ml)	280.00	240.00	200.00	160.00	120.00
Wt. of soil & dish (g)	387.96	508.58	478.16	425.83	525.04
Dry wt. soil & dish (g)	330.02	437.49	418.43	379.11	473.12
Net loss of moisture (g)	57.94	71.09	59.73	46.72	51.92
Wt. of dish (g)	6.59	6.54	8.39	9.30	8.47
Net wt. of dry soil (g)	323.43	430.95	410.04	369.81	464.65
Moisture Content (%)	17.91	16.50	14.57	12.63	11.17
Corrected Moisture Content	14.95	13.77	12.16	10.55	9.33
Density determination					
Wt of soil & mold (lb)	14.43	14.49	14.53	14.42	14.26
Wt. of mold (lb)	10.25	10.25	10.25	10.25	10.25
Net wt. of wet soil (lb)	4.18	4.24	4.28	4.17	4.01
Net wt of dry soil (lb)	3.54	3.64	3.74	3.70	3.61
Dry Density, (pcf)	106.35	109.19	112.07	111.07	108.21
Corrected Dry Density (pcf)	112.56	115.20	117.87	116.94	114.29
Volume Factor	30	30	30	30	30

Data entered by: CAL Date: 11/20/2013
Data checked by: CJ Date: 11/20/2013
FileName: MHD698-2.123

ADVANCED TERRA TESTING, Inc.
ATT

Proctor Compaction Test

NECR2-CC07, 0-10', NECR2-CC07-BULK



OPTIMUM MOISTURE CONTENT = 11.6 MAXIMUM DRY DENSITY = 117.8
ASTM D 698 A, Rock correction applied? Y

COMPACTION TEST
ASTM D 698 A

CLIENT:	MWH		JOB NO. 2512-77
BORING NO.	P2-CC04	DATE SAMPLED	11/11/13 MWH
DEPTH	0-3'	DATE TESTED	11/21/13 CAL
SAMPLE NO.	P2-CC04-BULK(0-3)	LOCATION	POND 2
PROJECT	Church Rock		

Moisture Determination

	1	2	3	4
Wt of Moisture added (ml)	80.00	120.00	160.00	200.00
Wt. of soil & dish (g)	547.89	554.37	449.61	571.03
Dry wt. soil & dish (g)	467.42	464.58	371.66	464.06
Net loss of moisture (g)	80.47	89.79	77.95	106.97
Wt. of dish (g)	6.54	6.53	6.58	6.57
Net wt. of dry soil (g)	460.88	458.05	365.08	457.49
Moisture Content (%)	17.46	19.60	21.35	23.38
Corrected Moisture Content				

Density determination

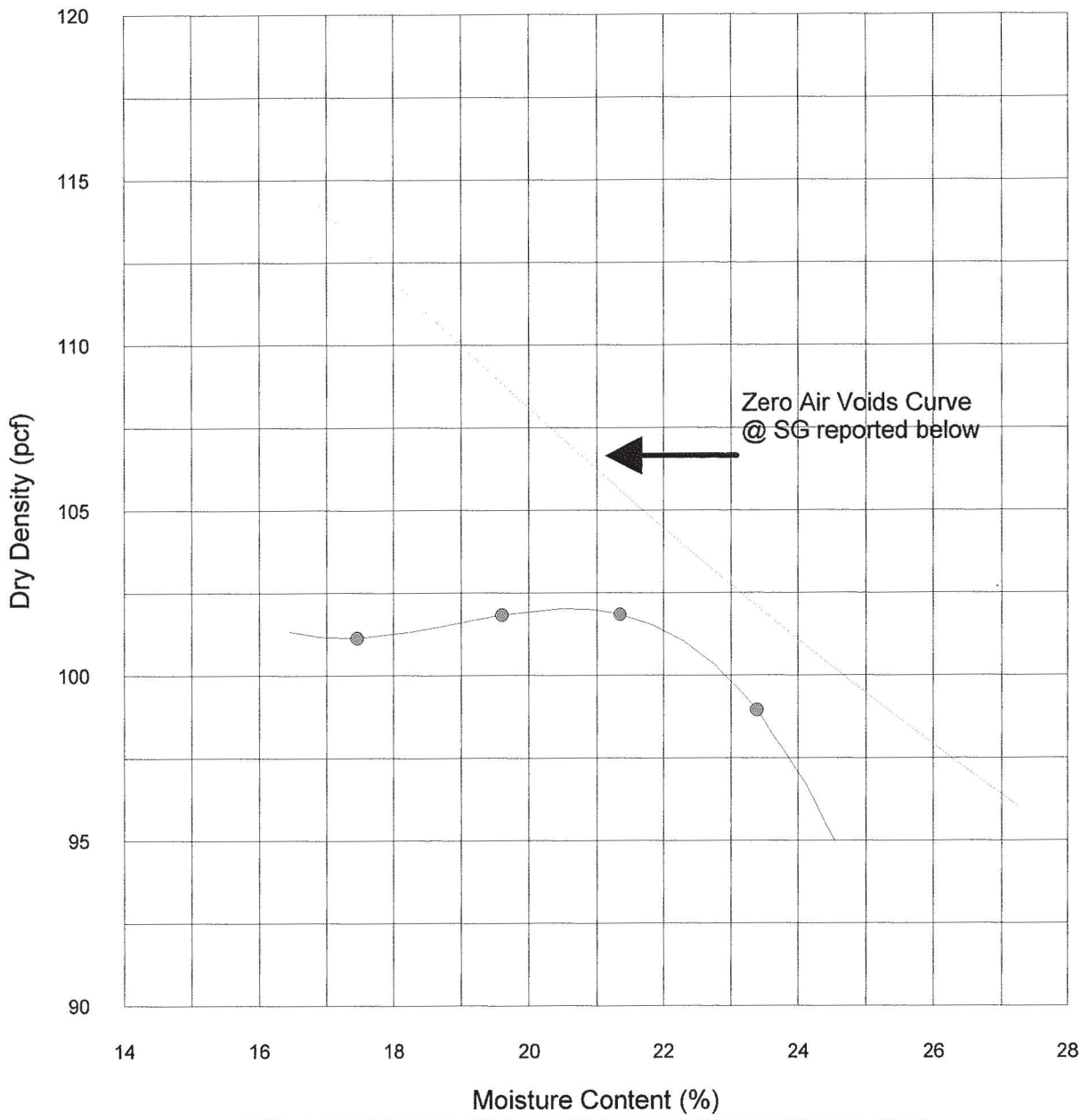
Wt of soil & mold (lb)	9.33	9.43	9.49	9.44
Wt. of mold (lb)	5.37	5.37	5.37	5.37
Net wt. of wet soil (lb)	3.96	4.06	4.12	4.07
Net wt of dry soil (lb)	3.37	3.39	3.40	3.30
Dry Density, (pcf)	101.14	101.84	101.85	98.96
Corrected Dry Density (pcf)				
Volume Factor	30	30	30	30

Data entered by: CAL Date: 11/22/2013
Data checked by: KP Date: 12/5/13
FileName: MWD69810

ADVANCED TERRA TESTING, INC. ATT

Proctor Compaction Test

P2-CC04, 0-3', P2-CC04-BULK(0-3)



OPTIMUM MOISTURE CONTENT = 20.6 MAXIMUM DRY DENSITY = 102.0
ASTM D 698 A, Rock correction applied? N

COMPACTION TEST
ASTM D 698 A

CLIENT:	MWH		JOB NO. 2512-77
BORING NO.	NECR1-CC17	DATE SAMPLED	11/07/13 MWH
DEPTH	10-20'	DATE TESTED	11/21/13 CAL
SAMPLE NO.	NECR1-CC17-BULK(0-20)	LOCATION	NECR1
PROJECT	Church Rock		

Moisture Determination

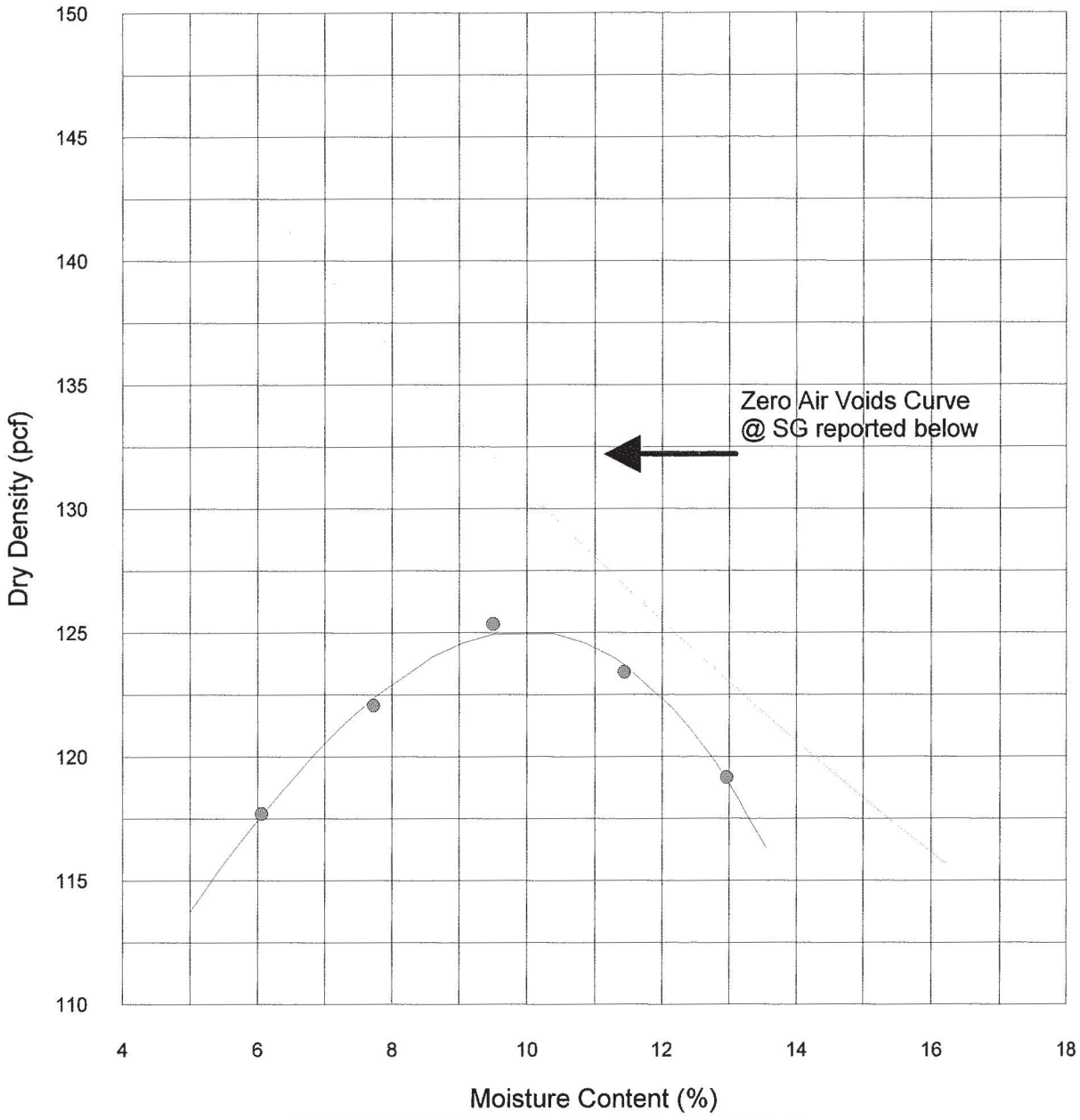
	1	2	3	4	5
Wt of Moisture added (ml)	0.00	40.00	80.00	120.00	160.00
Wt. of soil & dish (g)	637.62	470.29	463.87	439.93	465.65
Dry wt. soil & dish (g)	599.51	435.29	422.14	393.10	410.00
Net loss of moisture (g)	38.11	35.00	41.73	46.83	55.65
Wt. of dish (g)	8.40	9.22	9.44	8.43	6.61
Net wt. of dry soil (g)	591.11	426.07	412.70	384.67	403.39
Moisture Content (%)	6.45	8.21	10.11	12.17	13.80
Corrected Moisture Content	6.06	7.72	9.50	11.44	12.96
Density determination					
Wt of soil & mold (lb)	9.47	9.70	9.90	9.91	9.81
Wt. of mold (lb)	5.37	5.37	5.37	5.37	5.37
Net wt. of wet soil (lb)	4.10	4.33	4.53	4.54	4.44
Net wt of dry soil (lb)	3.85	4.00	4.11	4.05	3.90
Dry Density, (pcf)	115.55	120.04	123.42	121.42	117.05
Corrected Dry Density (pcf)	117.71	122.08	125.36	123.42	119.17
Volume Factor	30	30	30	30	30

Data entered by: CAL Date: 11/22/2013
Data checked by: KP Date: 12/3/13
FileName: MWD698-9

ADVANCED TERRA TESTING, INC. ATT

Proctor Compaction Test

NECR1-CC17, 10-20', NECR1-CC17-BULK(0-20)



OPTIMUM MOISTURE CONTENT = 10.0 MAXIMUM DRY DENSITY = 125.1
ASTM D 698 A, Rock correction applied? Y

COMPACTION TEST
ASTM D 698 A

CLIENT:	MWH		JOB NO. 2512-77
BORING NO.	NECR1-CC17	DATE SAMPLED	11/07/13 MWH
DEPTH	0-10'	DATE TESTED	11/21/13 CAL
SAMPLE NO.	NECR1-CC17-BULK(0-10)	LOCATION	NECR1
PROJECT	Church Rock		

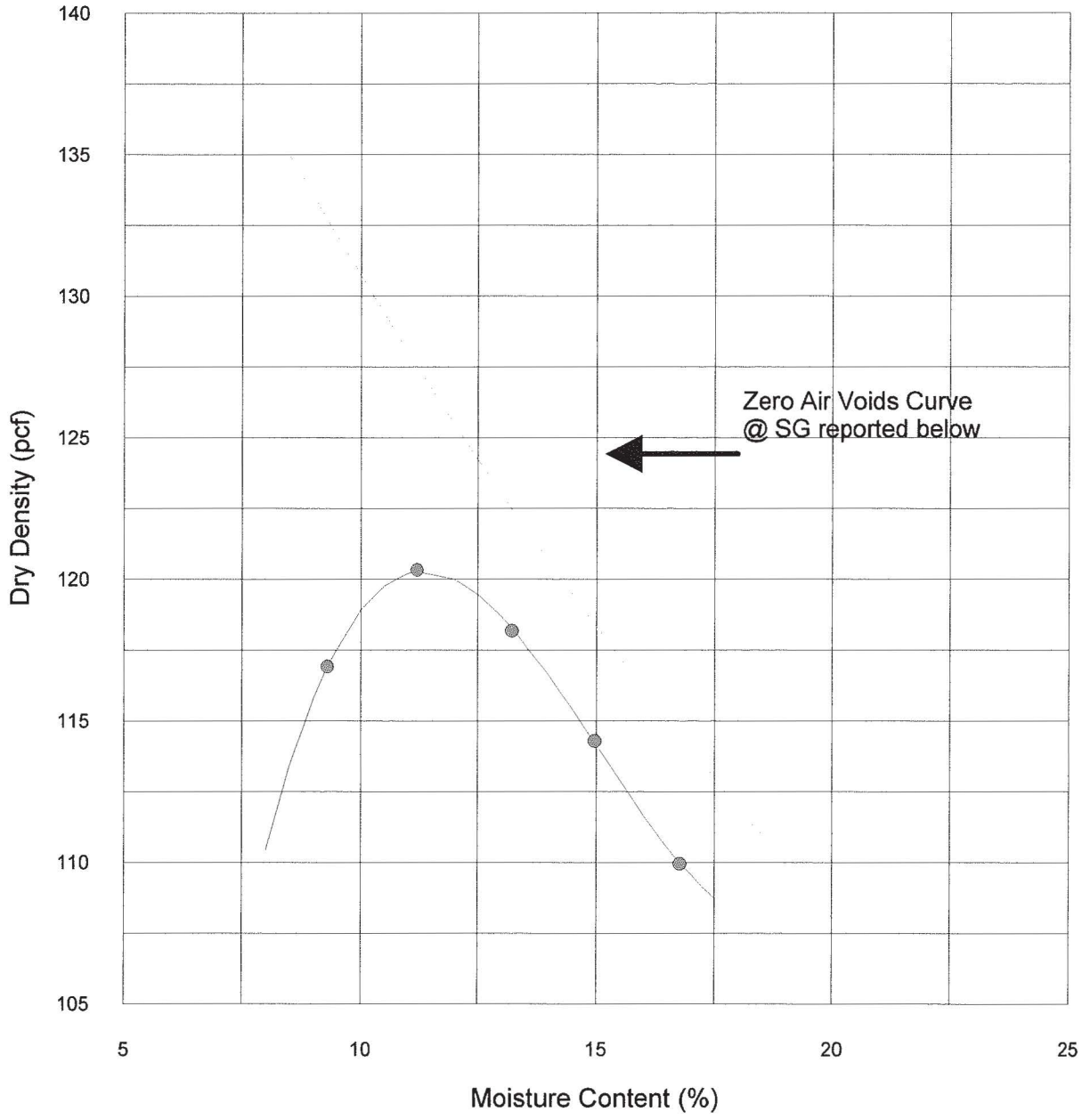
Moisture Determination	1	2	3	4	5
Wt of Moisture added (ml)	80.00	120.00	160.00	200.00	240.00
Wt. of soil & dish (g)	467.96	518.98	562.68	360.41	498.63
Dry wt. soil & dish (g)	428.71	467.39	497.75	314.33	427.94
Net loss of moisture (g)	39.25	51.59	64.93	46.08	70.69
Wt. of dish (g)	6.62	6.58	6.52	6.53	6.54
Net wt. of dry soil (g)	422.09	460.81	491.23	307.80	421.40
Moisture Content (%)	9.30	11.20	13.22	14.97	16.78
Corrected Moisture Content					
Density determination					
Wt of soil & mold (lb)	9.63	9.83	9.83	9.75	9.65
Wt. of mold (lb)	5.37	5.37	5.37	5.37	5.37
Net wt. of wet soil (lb)	4.26	4.46	4.46	4.38	4.28
Net wt of dry soil (lb)	3.90	4.01	3.94	3.81	3.67
Dry Density, (pcf)	116.93	120.33	118.18	114.29	109.96
Corrected Dry Density (pcf)					
Volume Factor	30	30	30	30	30

Data entered by: CAL Date: 11/22/2013
Data checked by: KB Date: 12/5/13
FileName: MW669811

ADVANCED TERRA TESTING, INC.
ATT

Proctor Compaction Test

NECR1-CC17, 0-10', NECR1-CC17-BULK(0-10)



Best Fit Curve Zero Air VoidsCurve @ SG = 2.65
Actual Data

OPTIMUM MOISTURE CONTENT = 11.3 MAXIMUM DRY DENSITY = 120.3
ASTM D 698 A, Rock correction applied? N

COMPACTION TEST
ASTM D 698 A

CLIENT:	MWH		JOB NO. 2512-77
BORING NO.	SP-CC13	DATE SAMPLED	11/11/13 MWH
DEPTH	0-15'	DATE TESTED	11/21/13 CAL
SAMPLE NO.	SP-CC13-BULK(0-15)	LOCATION	SED PAD
PROJECT	Church Rock		

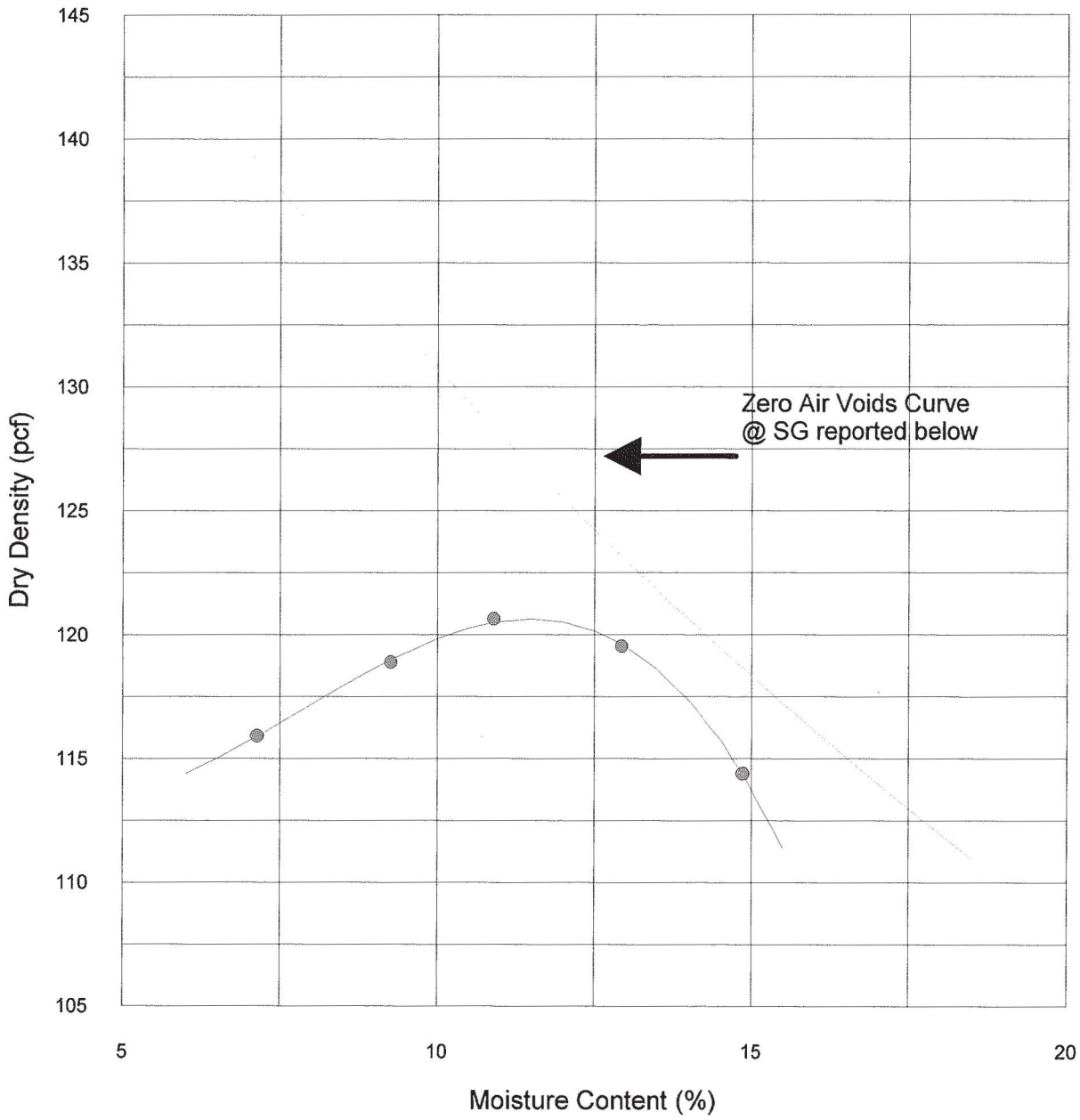
Moisture Determination	1	2	3	4	5
Wt of Moisture added (ml)	0.00	40.00	80.00	120.00	160.00
Wt. of soil & dish (g)	479.38	485.02	527.78	439.82	503.74
Dry wt. soil & dish (g)	447.85	444.46	476.80	390.51	439.77
Net loss of moisture (g)	31.53	40.56	50.98	49.31	63.97
Wt. of dish (g)	6.54	6.50	9.23	9.26	9.27
Net wt. of dry soil (g)	441.31	437.96	467.57	381.25	430.50
Moisture Content (%)	7.14	9.26	10.90	12.93	14.86
Corrected Moisture Content					
Density determination					
Wt of soil & mold (lb)	9.51	9.70	9.83	9.87	9.75
Wt. of mold (lb)	5.37	5.37	5.37	5.37	5.37
Net wt. of wet soil (lb)	4.14	4.33	4.46	4.50	4.38
Net wt of dry soil (lb)	3.86	3.96	4.02	3.98	3.81
Dry Density, (pcf)	115.92	118.89	120.65	119.54	114.40
Corrected Dry Density (pcf)					
Volume Factor	30	30	30	30	30

Data entered by: CAL Date: 11/22/2013
Data checked by: KP Date: 12/3/13
FileName: MWD698-8

ADVANCED TERRA TESTING, INC. ATT

Proctor Compaction Test

SP-CC13, 0-15', SP-CC13-BULK(0-15)



OPTIMUM MOISTURE CONTENT = 11.5 MAXIMUM DRY DENSITY = 120.6
ASTM D 698 A, Rock correction applied? N

COMPACTION TEST
ASTM D 698 A

CLIENT:	MWH		JOB NO. 2512-77
BORING NO.	NMSA-CC04	DATE SAMPLED	11/08/13 MWH
DEPTH	0-15'	DATE TESTED	11/21/13 CAL
SAMPLE NO.	NMSA-CC04-BULK(0-15)	LOCATION	NMSA
PROJECT	Church Rock		

Moisture Determination

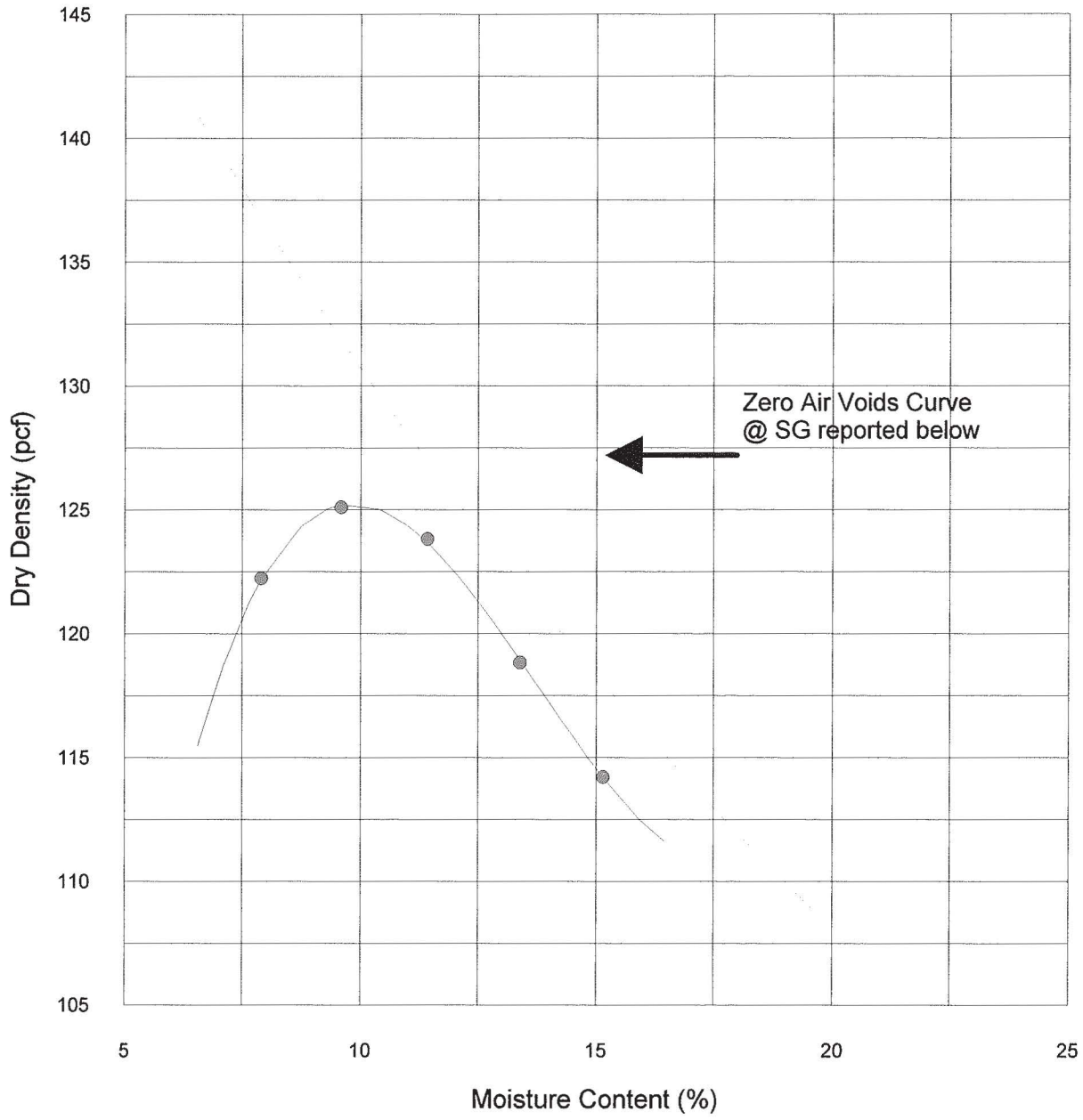
	1	2	3	4	5
Wt of Moisture added (ml)	0.00	40.00	80.00	120.00	160.00
Wt. of soil & dish (g)	688.18	647.30	575.39	519.17	451.34
Dry wt. soil & dish (g)	635.64	588.48	514.17	455.66	389.98
Net loss of moisture (g)	52.54	58.82	61.22	63.51	61.36
Wt. of dish (g)	6.54	8.44	6.54	6.55	6.59
Net wt. of dry soil (g)	629.10	580.04	507.63	449.11	383.39
Moisture Content (%)	8.35	10.14	12.06	14.14	16.00
Corrected Moisture Content	7.91	9.60	11.42	13.38	15.15
Density determination					
Wt of soil & mold (lb)	9.72	9.90	9.93	9.82	9.71
Wt. of mold (lb)	5.37	5.37	5.37	5.37	5.37
Net wt. of wet soil (lb)	4.35	4.53	4.56	4.45	4.34
Net wt of dry soil (lb)	4.01	4.11	4.07	3.90	3.74
Dry Density, (pcf)	120.44	123.39	122.08	116.96	112.24
Corrected Dry Density (pcf)	122.23	125.10	123.82	118.83	114.21
Volume Factor	30	30	30	30	30

Data entered by: CAL Date: 11/22/2013
Data checked by: KR Date: 12/3/13
FileName: MW6698-7

ADVANCED TERRA TESTING, INC. ATT

Proctor Compaction Test

NMSA-CC04, 0-15', NMSA-CC04-BULK(0-15)



OPTIMUM MOISTURE CONTENT = 9.8 MAXIMUM DRY DENSITY = 125.2
ASTM D 698 A, Rock correction applied? Y

Compaction Test
ASTM D 698 - A

Client:	MWH			Job number:	2512-77
Project Number:	Church Rock				
Location:	Pond 3			Boring:	P3-CC07
Sampled by:	--			Depth:	0-5
Tested by:	BDF			Sample Id:	Bulk(0-5)
				Test date:	3/10/2014
Initial conditions					
Wet Weight Pan and Soil (g):	49.33	Wet Weight of Total Fines (lb):	32.03		
Dry Weight Pan and Soil (g):	48.90	Dry weight of total fines (lb):	31.73		
Wt. Water (g):	0.43	Mdc (mass dry coarse) (lb):	1.55		
				Pf (% fines)	95.36%
				Pc (% course)	4.64%
				Use Correction?	No
				Layers	5
				Blows/Layer	25

Wt of Moisture added (ml)	240	280	320	360	400
Wt. of soil & dish (g)	473.88	469.95	490.69	571.15	520.97
Dry wt. soil & dish (g)	425.98	416.04	428.87	491.79	442.43
Net loss of moisture (g)	47.90	53.91	61.82	79.36	78.54
Wt. of dish (g)	6.53	6.53	6.63	8.23	6.65
Net wt. of dry soil (g)	419.45	409.51	422.24	483.56	435.78
Moisture Content	11.42%	13.16%	14.64%	16.41%	18.02%
Corrected Moisture Content					
Wt of soil & mold (lb)	13.80	13.91	13.97	13.95	13.88
Wt. of mold (lb)	9.78	9.78	9.78	9.78	9.78
Net wt. of wet soil (lb)	4.02	4.13	4.19	4.17	4.10
Net wt of dry soil (lb)	3.61	3.65	3.65	3.58	3.47
Dry Density, (pcf)	108.24	109.49	109.65	107.46	104.22
Corrected Dry Density (pcf)					

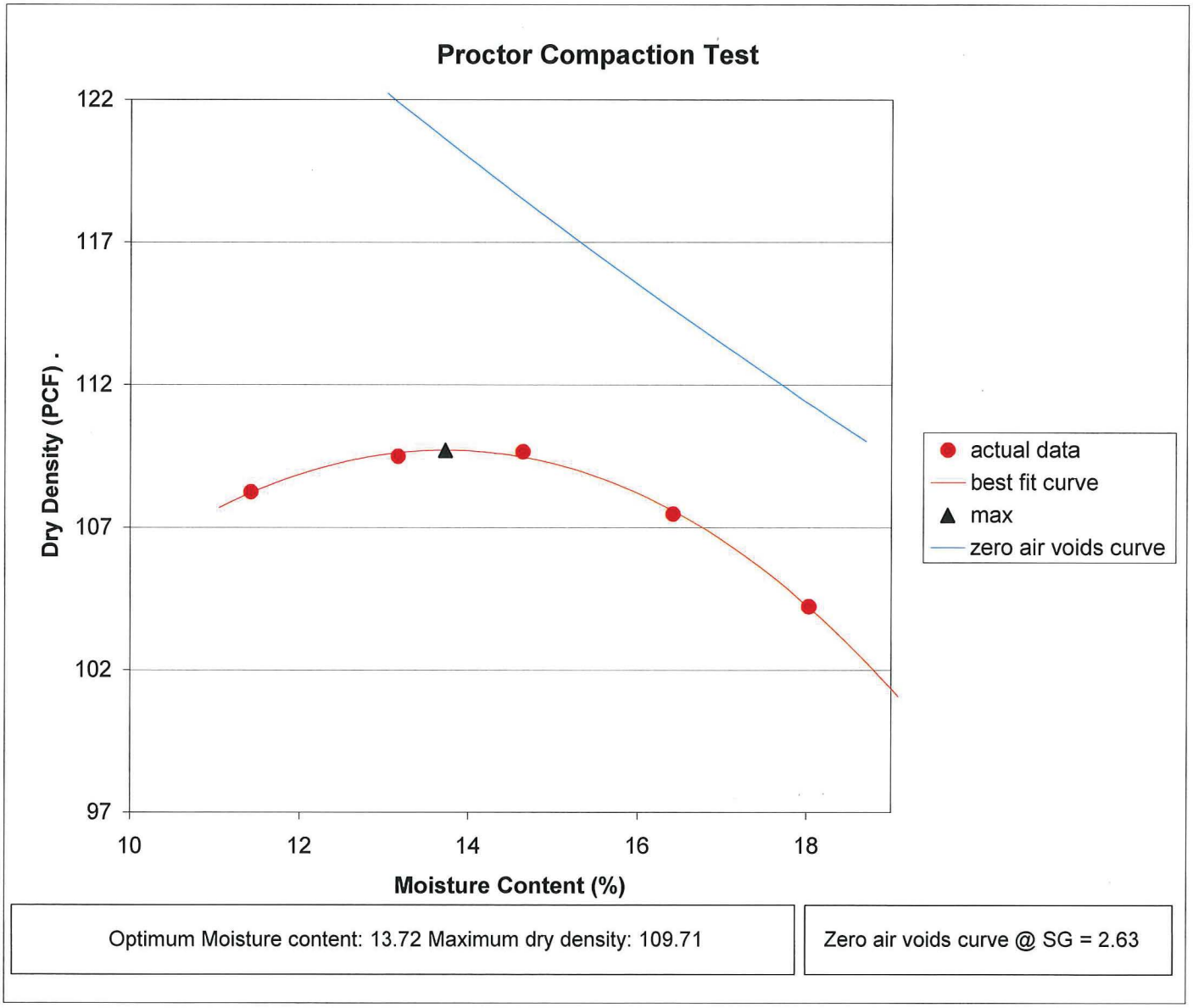
ATT
ADVANCED TERRA TESTING

Data entry by:	BDF	Date:	03/14/14
Data checked by:	KR	Date:	3/14/14
Filename	2512_77_Proctor_ASTMD1557_ASTMD698_R0_1.xls		

Compaction Test

ASTM D 698 - A

Client:	MWH	Job number:	2512-77
Project Number:	Church Rock		
Location:	Pond 3	Boring:	P3-CC07
Sampled by:	--	Depth:	0-5
Tested by:	BDF	Sample Id:	Bulk(0-5)
		Test date:	3/10/2014



Optimum Moisture content: 13.72 Maximum dry density: 109.71	Zero air voids curve @ SG = 2.63

Data entry by:	BDF	Date:	03/14/14
Data checked by:		Date:	3/14/14
Filename	2512_77_Proctor_ASTMD1557_ASTMD698_R0_1.xls		