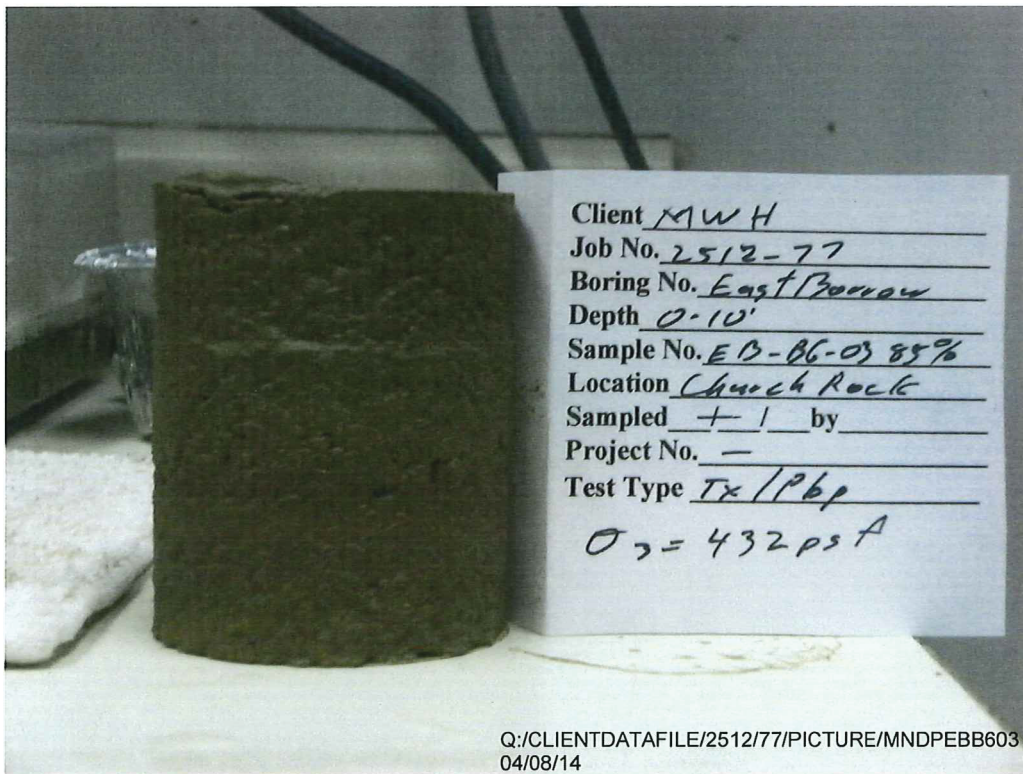




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04/08/14

PERMEABILITY TEST - BACK PRESSURE SATURATED - FLOW PUMP METHOD
ASTM D 5084

CLIENT MWH

JOB NO. 2512-77

BORING NO. South Borrow
DEPTH 0-15'
SAMPLE NO. SB-B4-01 85%
LOCATION Church Rock
PROJECT NO. --
SOIL DESCR. Remolded -#4

SAMPLED --
TEST STARTED 03/19/14 CAL
TEST FINISHED 04/09/14 CAL
CELL NUMBER 17S
SATURATED TEST Yes
TEST TYPE TX/Pbp/Tap Water
CONF. PRES. PSF 432

MOISTURE/DENSITY DATA	BEFORE TEST	AFTER TEST
Wt. Soil + Moisture (g)	389.3	442.1
Wt. Wet Soil & Pan (g)	396.0	448.7
Wt. Dry Soil & Pan (g)	353.7	353.7
Wt. Lost Moisture (g)	42.3	95.0
Wt. of Pan Only (g)	6.7	6.7
Wt. of Dry Soil (g)	347.0	347.0
Moisture Content %	12.2	27.4
Wet Density PCF	108.5	127.2
Dry Density PCF	96.8	99.9

Init. Diameter (in)	2.406	(cm)	6.111
Init. Area (sq in)	4.547	(sq cm)	29.334
Init. Height (in)	3.005	(cm)	7.633
Vol. Bef. Consol. (cu ft)	0.00791		
Vol. After Consol. (cu ft)	0.00766		
Porosity %	43.81		

FLOW PUMP CALCULATIONS

Pump Setting (gear number)	5
Percentage of Pump setting	100
Q (cc/s)	5.81E-03
Height	2.993
Diameter	2.373
Pressure (psi)	0.110
Area after consol. (cm*cm)	28.530
Gradient	1.017
Permeability k (cm/s)	2.0E-04
Permeability k (m/s)	2.0E-06
Back Pressure (psi)	98.0
Cell Pressure (psi)	101.0
Ave. Effective Stress (psi)	2.945

Average temperature degree C: 23.0

Data entry by: DAW Date: 04/10/2014
Checked by: OK Date: 4/11/14
FileName: 2512_77_HarvardFlowPump-Perm-ASTMD-5084-R1_19.xls

TRIAXIAL TEST DATA
ASTM D 5084

CLIENT MWH

JOB NO. 2512-77

BORING NO. South Borrow
DEPTH 0-15'
SAMPLE NO. SB-B4-01 85%
LOCATION Church Rock
PROJECT NO. --
SOIL DESCR. Remolded -#4

SAMPLED --
TEST STARTED 03/19/14 CAL
TEST FINISHED 04/09/14 CAL
SETUP NO. 17S
SATURATED TEST Yes
TEST TYPE TX/Pbp/Tap Water
CONF. PRES. PSF 432

SATURATION DATA

Cell Pres. (PSI)	Back Pres. (PSI)	Burette Reading (CC)		Pore Pressure (PSI)		Change	B
		Close	Open	Close	Open		
40.0	38.0	2.1	15.9				
50.0	48.0	15.9	17.4	38.0	45.3	7.3	0.73
60.0	58.0	16.8	17.9	47.8	55.8	8.0	0.80
70.0	68.0	17.8	18.6	58.2	66.4	8.2	0.82
80.0	78.0	18.6	19.4	68.1	76.9	8.8	0.88
90.0	88.0	19.5	20.2	78.2	87.1	8.9	0.89
100.0	98.0	20.3	21.0	88.3	97.6	9.3	0.93
110.0		21.3	21.3	98.0	107.5	9.5	0.95

CONSOLIDATION DATA

Elapsed Time (Min)	SQRT Time (Min)	Burette Reading (CC)	Volume Defl. (cc)
0.00	0.00	21.30	0.00
0.25	0.50	21.65	-0.35
0.5	0.71	21.65	-0.35
1	1.00	21.65	-0.35
2	1.41	21.65	-0.35
4	2.00	21.65	-0.35
9	3.00	21.65	-0.35
16	4.00	21.65	-0.35
30	5.48	21.65	-0.35
60	7.75	21.70	-0.40
120	10.95	21.70	-0.40
240	15.49	21.70	-0.40
360	18.97	21.70	-0.40

Initial Height (in)	3.005	Init. Vol. (CC)	223.926
Height Change (in)	0.012	Vol. Change (CC)	20.200
Ht. After Cons. (in)	2.993	Cell Exp. (CC)	13.204
Initial Area (sq in)	4.547	Net Change (CC)	6.996
Area After Cons. (sq in)	4.422	Cons. Vol. (CC)	216.930

Data entry by: DAW Date: 04/10/2014

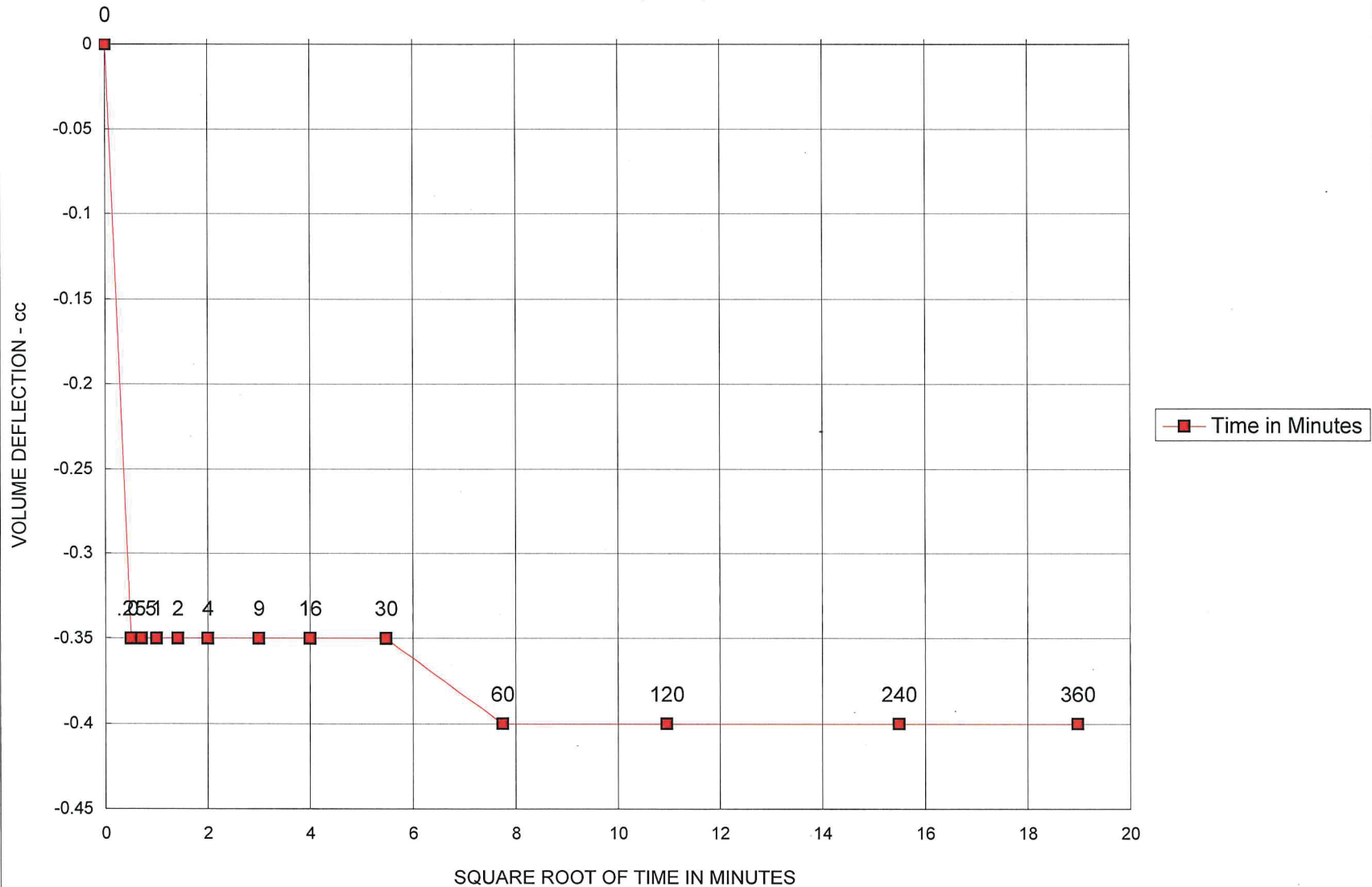
Checked by: DAW Date: 4/11/14

FileName: 2512_77_HarvardFlowPump-Perm-ASTMD-5084-R1_19.xls



CONSOLIDATION DATA

South Borrow, 0-15', SB-B4-01 85%



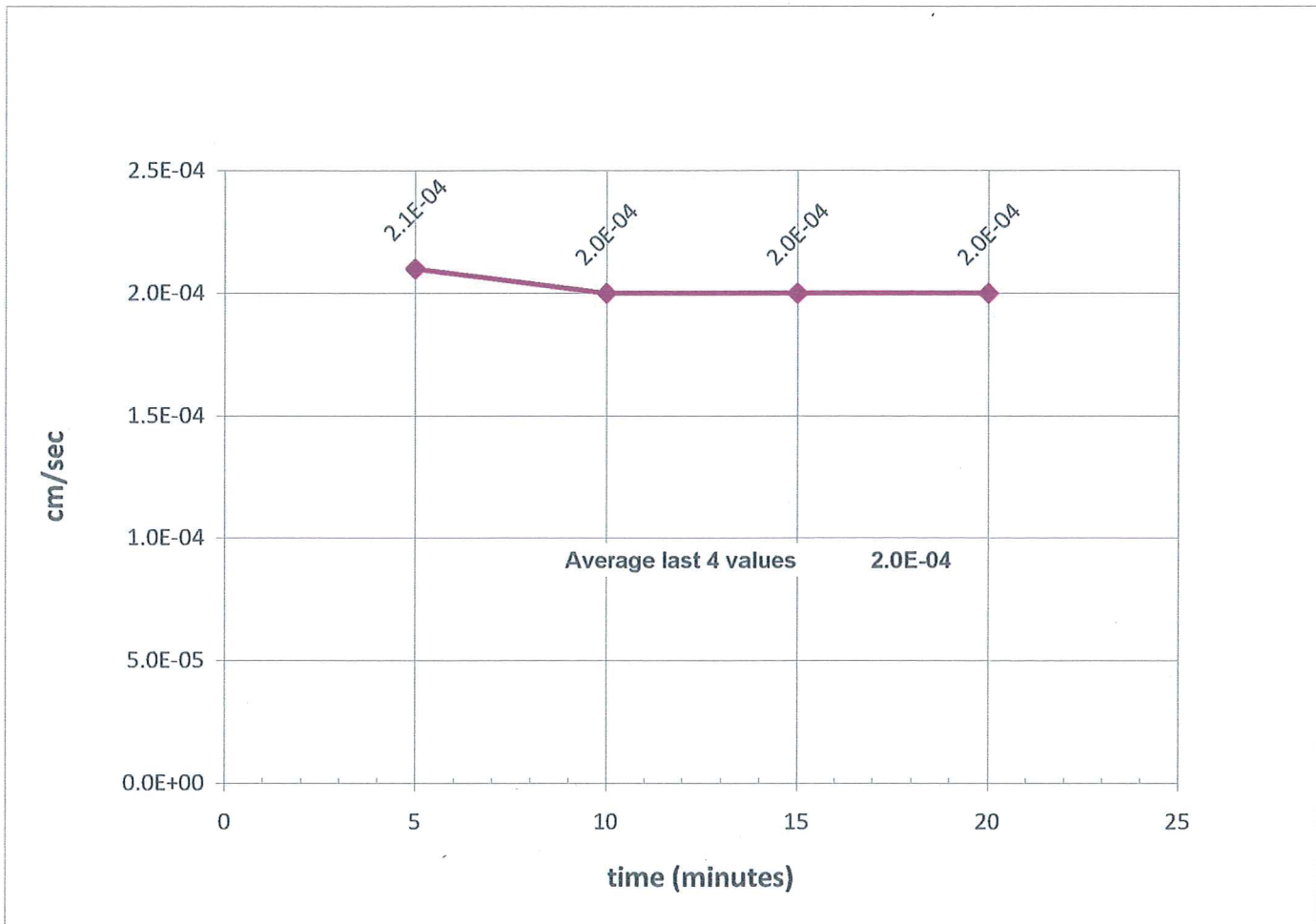


Preliminary Flow Pump Test Data ASTM D5084

Client: MWH
Job Number: 2512-77
Project: --
Location: Church Rock
Project Number: --

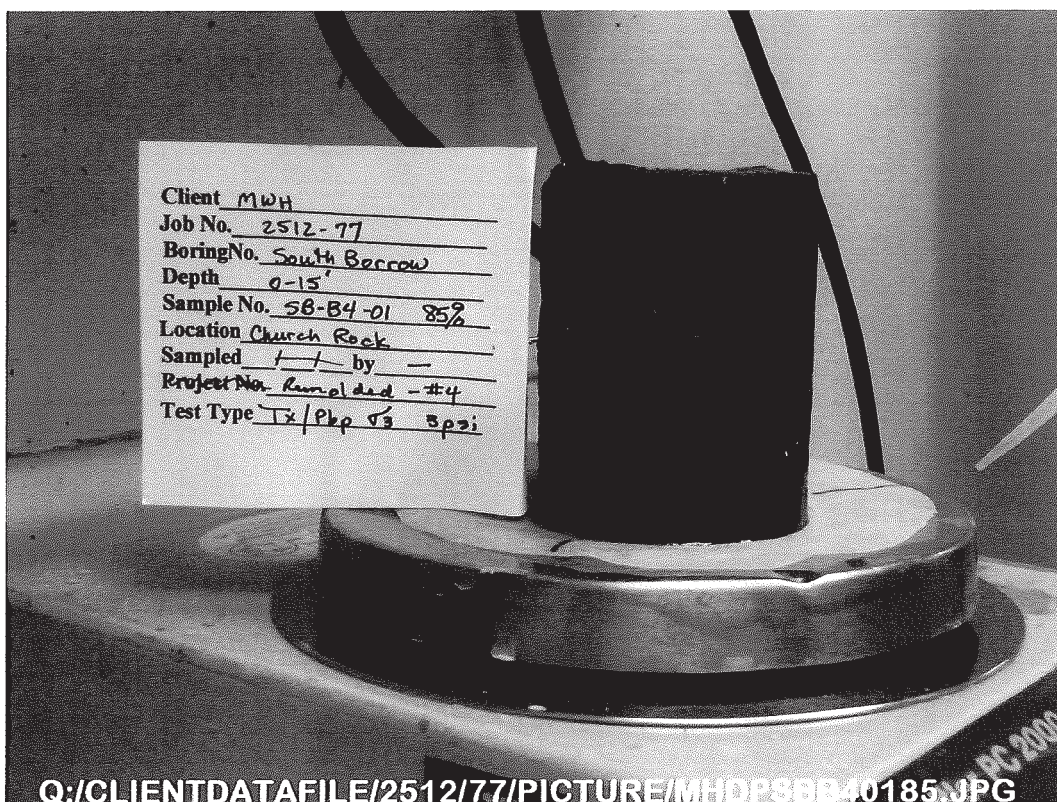
Boring Number: South Borrow
Depth: 0-15'
Sample Number: SB-B4-01 85%
Sampled Date: --
Test Date: 4/9/2014

Sampled By: --
Technician: CAL



Data Entered By: CAL
Date: 4/9/2014
File Name: 2512_77_PrelimPerm_ASTMD-5084-methodD_20.xls

Checked By: DAW
Date: 04/10/14



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PERMEABILITY TEST - BACK PRESSURE SATURATED - FLOW PUMP METHOD

ASTM D 5084

CLIENT MWH

JOB NO. 2512-77

BORING NO.	South Borrow	SAMPLED	--
DEPTH	0-25'	TEST STARTED	03/18/14 CAL
SAMPLE NO.	SB-B1-04 (85%)	TEST FINISHED	04/09/14 CAL
LOCATION	Church Rock	CELL NUMBER	9P
PROJECT NO.	--	SATURATED TEST	Yes
SOIL DESCR.	Remolded -#4	TEST TYPE	TX/Pbp/Tap Water
		CONF. PRES. PSF	432

MOISTURE/DENSITY DATA	BEFORE TEST	AFTER TEST
Wt. Soil + Moisture (g)	381.5	443.8
Wt. Wet Soil & Pan (g)	389.8	452.2
Wt. Dry Soil & Pan (g)	360.0	360.0
Wt. Lost Moisture (g)	29.8	92.2
Wt. of Pan Only (g)	8.4	8.4
Wt. of Dry Soil (g)	351.7	351.7
Moisture Content %	8.5	26.2
Wet Density PCF	106.3	134.0
Dry Density PCF	98.0	106.2

Init. Diameter (in)	2.403	(cm)	6.104
Init. Area (sq in)	4.535	(sq cm)	29.261
Init. Height (in)	3.015	(cm)	7.658
Vol. Bef. Consol. (cu ft)	0.00791		
Vol. After Consol. (cu ft)	0.00730		
Porosity %	44.58		

FLOW PUMP CALCULATIONS

Pump Setting (gear number)	6
Percentage of Pump setting	100
Q (cc/s)	2.31E-03
Height	3.006
Diameter	2.312
Pressure (psi)	0.163
Area after consol. (cm*cm)	27.075
Gradient	1.501
Permeability k (cm/s)	5.7E-05
Permeability k (m/s)	5.7E-07
Back Pressure (psi)	98.0
Cell Pressure (psi)	101.0
Ave. Effective Stress (psi)	2.919
Average temperature degree C:	22.8

Data entry by: DAW Date: 04/10/2014
 Checked by: en Date: 4/11/14
 FileName: 2512_77_HarvardFlowPump-Perm-ASTMD-5084-R1_17.xls

TRIAXIAL TEST DATA
ASTM D 5084

CLIENT MWH

JOB NO. 2512-77

BORING NO.	South Borrow	SAMPLED	--
DEPTH	0-25'	TEST STARTED	03/18/14 CAL
SAMPLE NO.	SB-B1-04 (85%)	TEST FINISHED	04/09/14 CAL
LOCATION	Church Rock	SETUP NO.	9P
PROJECT NO.	--	SATURATED TEST	Yes
SOIL DESCR.	Remolded -#4	TEST TYPE	TX/Pbp/Tap Water
		CONF. PRES. PSF	432

SATURATION DATA

Cell Pres. (PSI)	Back Pres. (PSI)	Burette Reading (CC)		Pore Pressure (PSI)		Change	B
		Close	Open	Close	Open		
		Close	Open	Close	Open		
40.0	38.0	2.2	17.2				
50.0	48.0	19.6	21.6	38.6	46.5	7.9	0.79
60.0	58.0	24.3	25.3	47.9	56.3	8.4	0.84
70.0	68.0	25.8	26.7	58.7	67.4	8.7	0.87
80.0	78.0	27.1	28.0	68.7	77.6	8.9	0.89
90.0	88.0	28.3	29.1	78.6	87.8	9.2	0.92
100.0	98.0	29.4	30.3	88.6	97.9	9.3	0.93
110.0		32.1	32.3	98.5	108.1	9.6	0.96

CONSOLIDATION DATA

Elapsed Time (Min)	SQRT Time (Min)	Burette Reading (CC)	Volume Defl. (cc)
0.00	0.00	32.30	0.00
0.25	0.50	32.65	-0.35
0.5	0.71	32.70	-0.40
1	1.00	32.70	-0.40
2	1.41	32.70	-0.40
4	2.00	32.70	-0.40
9	3.00	32.70	-0.40
16	4.00	32.70	-0.40
30	5.48	32.70	-0.40
60	7.75	32.75	-0.45
120	10.95	32.75	-0.45
240	15.49	32.75	-0.45
360	18.97	32.75	-0.45

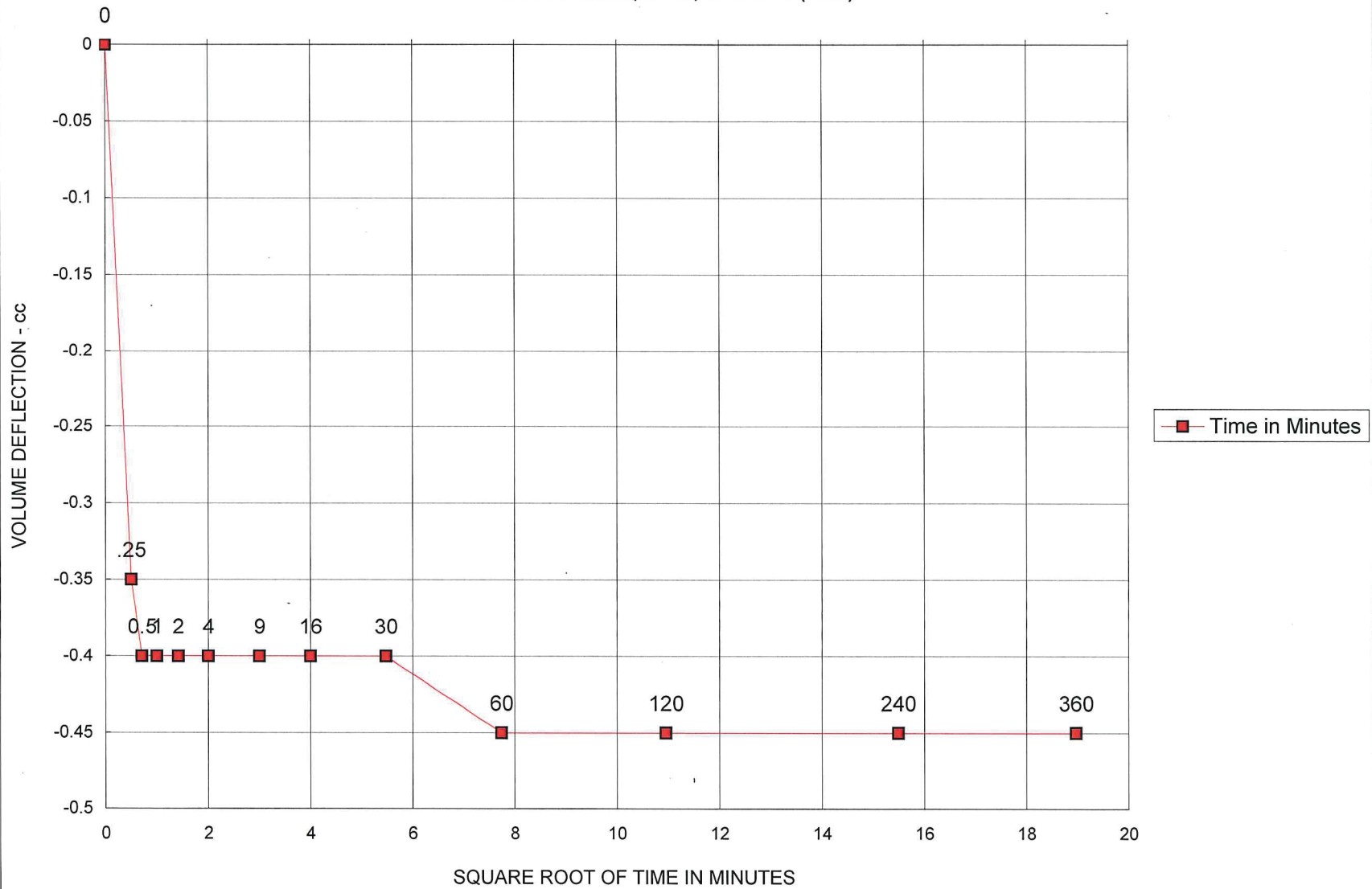
Initial Height (in)	3.015	Init. Vol. (CC)	224.111
Height Change (in)	0.009	Vol. Change (CC)	33.200
Ht. After Cons. (in)	3.006	Cell Exp. (CC)	15.850
Initial Area (sq in)	4.535	Net Change (CC)	17.350
Area After Cons. (sq in)	4.197	Cons. Vol. (CC)	206.761

Data entry by: DAW Date: 04/10/2014
 Checked by: cx Date: 4/11/14
 FileName: 2512_77_HarvardFlowPump-Perm-ASTMD-5084-R1_17.xls



CONSOLIDATION DATA

South Borrow, 0-25', SB-B1-04 (85%)

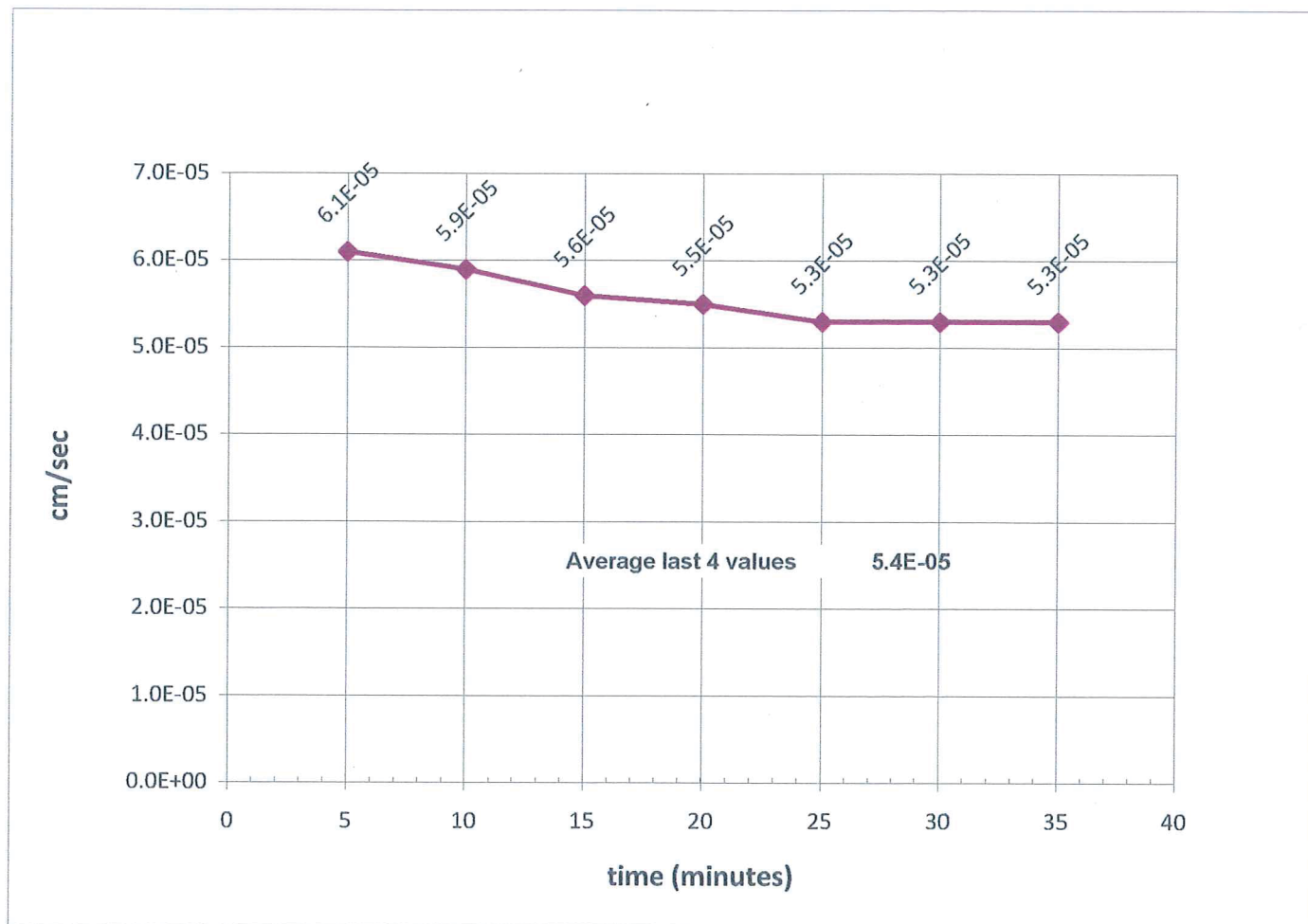


Preliminary Flow Pump Test Data ASTM D5084

Client: MWH
Job Number: 2512-77
Project: --
Location: Church Rock
Project Number: --

Boring Number: South Borrow
Depth: 0-25'
Sample Number: SB-B1-04 85%
Sampled Date: --
Test Date: 4/9/2014

Sampled By: --
Technician: CAL



Data Entered By: CAL
Date: 4/9/2014
File Name: 2512_77_PrelimPerm_ASTMD-5084-methodD_18.xls

Checked By: DAV
Date: 04/10/14

Client MWH
Job No. 2512-77
Boring No. South Borrow
Depth 0-25'
Sample No. SG-B1-04 85%
Location Church Rock
Sampled 1/1 by
Project No.
Test Type T_x/P_bp σ₃ 3psi

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PERMEABILITY TEST - BACK PRESSURE SATURATED - FLOW PUMP METHOD
ASTM D 5084

CLIENT MWH

JOB NO. 2512-77

BORING NO.	West Borrow	SAMPLED	--
DEPTH	10-20'	TEST STARTED	03/18/14 CAL
SAMPLE NO.	WB-B2-05 85%	TEST FINISHED	04/09/14 CAL
LOCATION	Church Rock	CELL NUMBER	11P
PROJECT NO.	--	SATURATED TEST	Yes
SOIL DESCR.	Remolded -#4	TEST TYPE	TX/Pbp/Tap Water
		CONF. PRES. PSF	432

MOISTURE/DENSITY DATA	BEFORE TEST	AFTER TEST
Wt. Soil + Moisture (g)	367.8	427.6
Wt. Wet Soil & Pan (g)	374.8	434.6
Wt. Dry Soil & Pan (g)	349.5	349.5
Wt. Lost Moisture (g)	25.3	85.1
Wt. of Pan Only (g)	7.0	7.0
Wt. of Dry Soil (g)	342.5	342.5
Moisture Content %	7.4	24.8
Wet Density PCF	103.3	130.4
Dry Density PCF	96.2	104.5

Init. Diameter (in)	2.402	(cm)	6.101
Init. Area (sq in)	4.531	(sq cm)	29.237
Init. Height (in)	2.994	(cm)	7.605
Vol. Bef. Consol. (cu ft)	0.00785		
Vol. After Consol. (cu ft)	0.00723		
Porosity %	41.56		

FLOW PUMP CALCULATIONS

Pump Setting (gear number)	5
Percentage of Pump setting	100
Q (cc/s)	5.81E-03
Height	2.962
Diameter	2.317
Pressure (psi)	0.195
Area after consol. (cm*cm)	27.205
Gradient	1.822
Permeability k (cm/s)	1.2E-04
Permeability k (m/s)	1.2E-06
Back Pressure (psi)	118.0
Cell Pressure (psi)	121.0
Ave. Effective Stress (psi)	2.903

Average temperature degree C: 23.0

Data entry by: DAW Date: 04/10/2014
 Checked by: CAE Date: 4/11/14
 FileName: 2512_77_HarvardFlowPump-Perm-ASTMD-R1_18.xls

TRIAXIAL TEST DATA
ASTM D 5084

CLIENT MWH

JOB NO. 2512-77

BORING NO. West Borrow
DEPTH 10-20'
SAMPLE NO. WB-B2-05 85%
LOCATION Church Rock
PROJECT NO. --
SOIL DESCR. Remolded -#4

SAMPLED --
TEST STARTED 03/18/14 CAL
TEST FINISHED 04/09/14 CAL
SETUP NO. 11P
SATURATED TEST Yes
TEST TYPE TX/Pbp/Tap Water
CONF. PRES. PSF 432

SATURATION DATA

Cell Pres. (PSI)	Back Pres. (PSI)	Burette Reading (CC)	Pore Pressure (PSI)		Change	B
		Close	Open	Close	Open	
40.0	38.0	2.8	22.4			
50.0	48.0	23.7	26.4	38.6	46.2	7.6
60.0	58.0	26.8	28.0	47.7	55.5	7.8
70.0	68.0	28.1	29.0	58.8	66.8	8.0
80.0	78.0	29.1	29.8	68.7	77.2	8.5
90.0	88.0	30.1	30.8	78.5	87.2	8.7
100.0	98.0	31.0	31.7	88.5	97.5	9.0
110.0	108.0	32.3	33.0	98.3	107.5	9.2
120.0	118.0	33.2	33.9	108.4	117.8	9.4
130.0		35.3	35.3	118.5	128.4	9.9

CONSOLIDATION DATA

Elapsed Time (Min)	SQRT Time (Min)	Burette Reading (CC)	Volume Defl. (cc)
0.00	0.00	0.50	0.00
0.25	0.50	1.10	-0.60
0.5	0.71	1.20	-0.70
1	1.00	1.20	-0.70
2	1.41	1.25	-0.75
4	2.00	1.25	-0.75
9	3.00	1.30	-0.80
16	4.00	1.35	-0.85
30	5.48	1.35	-0.85
60	7.75	1.35	-0.85
120	10.95	1.35	-0.85
240	15.49	1.35	-0.85
360	18.97	1.35	-0.85

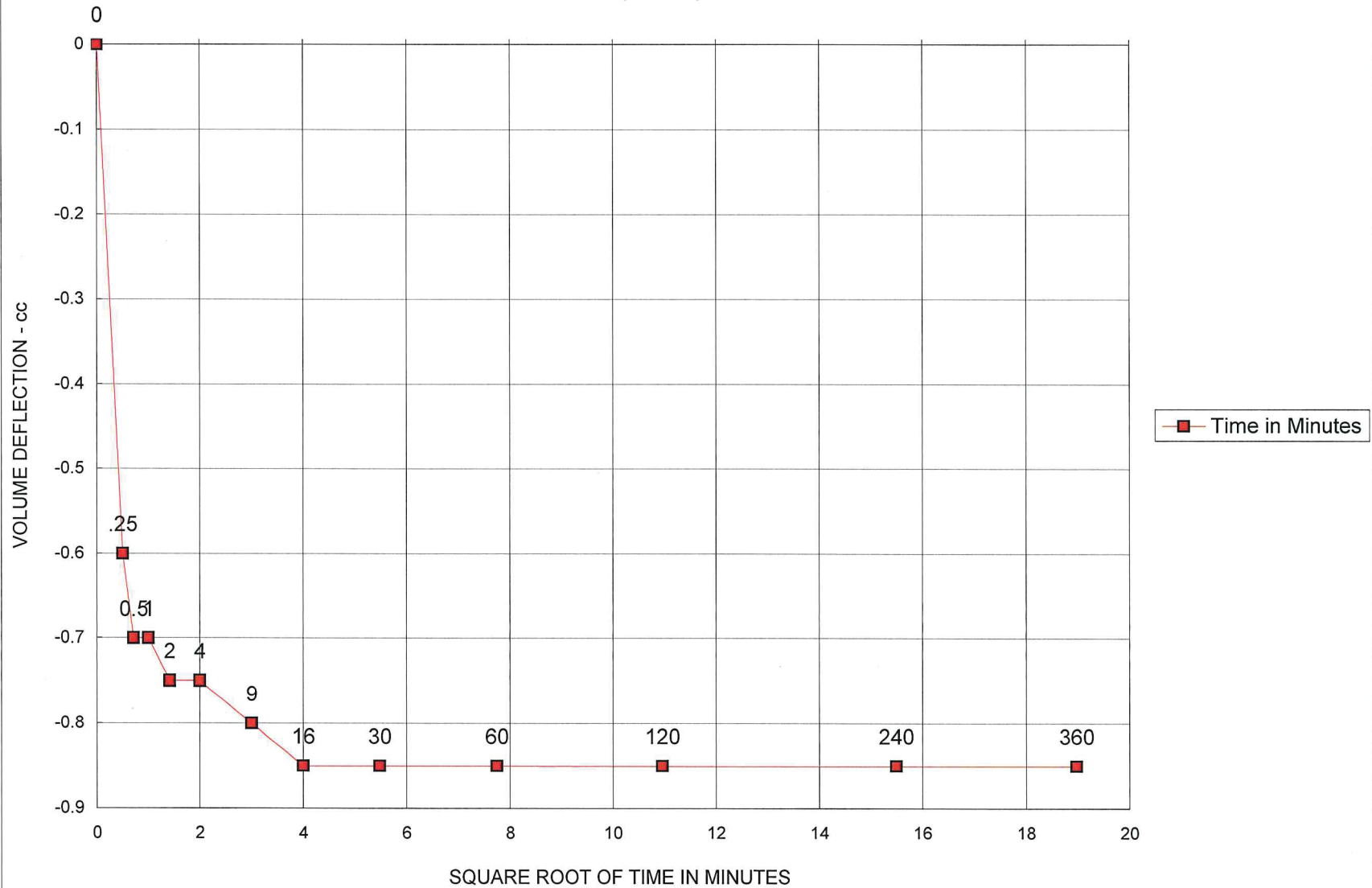
Initial Height (in)	2.994	Init. Vol. (CC)	222.365
Height Change (in)	0.032	Vol. Change (CC)	34.300
Ht. After Cons. (in)	2.962	Cell Exp. (CC)	16.651
Initial Area (sq in)	4.531	Net Change (CC)	17.650
Area After Cons. (sq in)	4.217	Cons. Vol. (CC)	204.716

Data entry by: DAW Date: 04/10/2014
Checked by: CAW Date: 4/11/14
FileName: 2512_77_HarvardFlowPump-Perm-ASTMD-R1_18.xls



CONSOLIDATION DATA

West Borrow, 10-20', WB-B2-05 85%



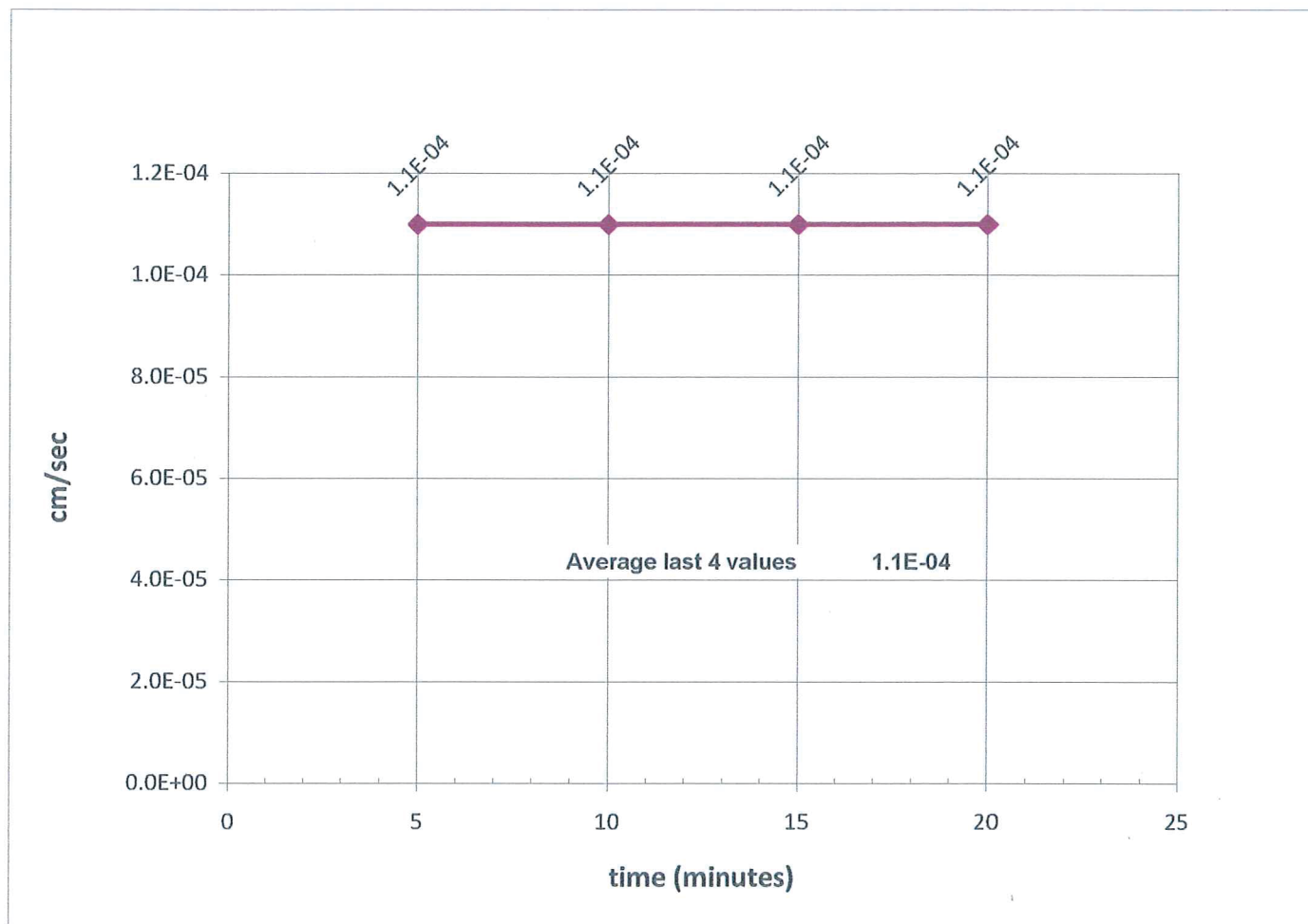


Preliminary Flow Pump Test Data ASTM D5084

Client: MWH
Job Number: 2512-77
Project: --
Location: Church Rock
Project Number: --

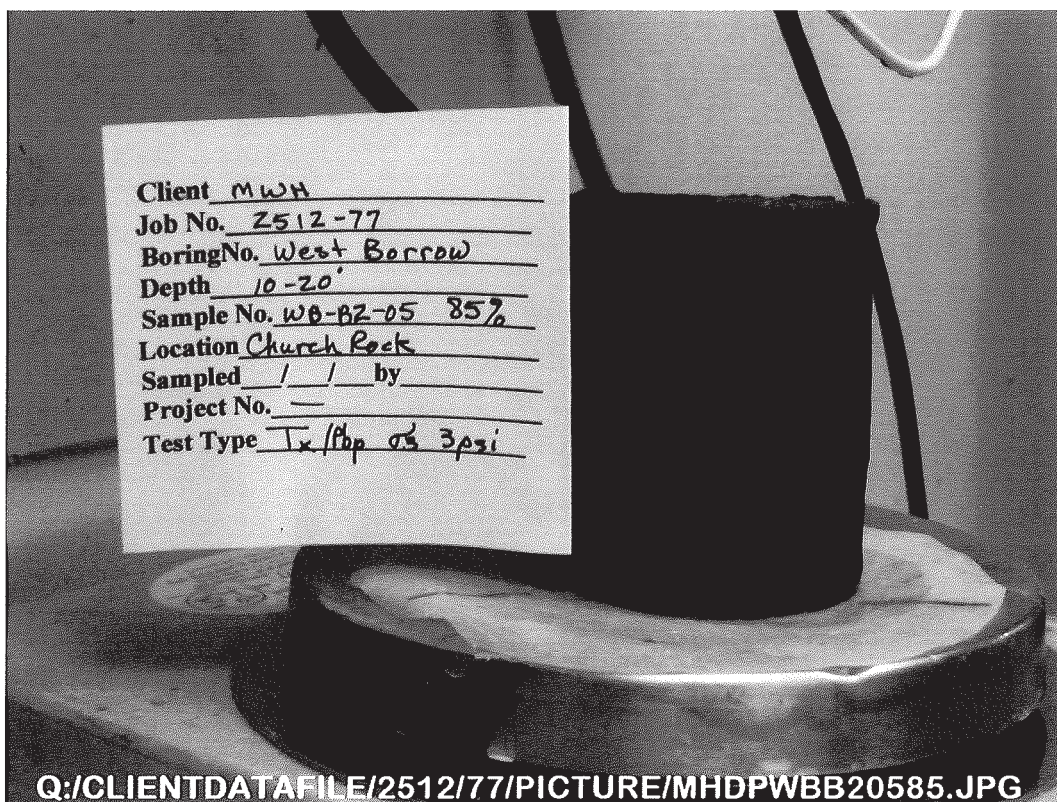
Boring Number: West Borrow
Depth: 10-20'
Sample Number: WB-B2-05 85%
Sampled Date: --
Test Date: 4/9/2014

Sampled By: --
Technician: CAL



Data Entered By: CAL
Date: 4/9/2014
File Name: 2512_77_PrelimPerm_ASTMD-5084-methodD_19.xls

Checked By: DAW
Date: 5/10/14



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PERMEABILITY TEST - BACK PRESSURE SATURATED - FLOW PUMP METHOD

ASTM D 5084

CLIENT MWH

JOB NO. 2512-77

BORING NO. North Borrow
DEPTH 0-10'
SAMPLE NO. NB-B2-04 85%
LOCATION Church Rock
PROJECT NO. -
SOIL DESCR. Remolded -#4

SAMPLED -
TEST STARTED 3/20/14 CAL
TEST FINISHED 4/08/14 CAL
CELL NUMBER 1P
SATURATED TEST Yes
TEST TYPE TX/Pbp/Tap Water
CONF. PRES. PSF 432

MOISTURE/DENSITY DATA	BEFORE TEST	AFTER TEST
Wt. Soil + Moisture (g)	370.1	442.0
Wt. Wet Soil & Pan (g)	377.0	448.9
Wt. Dry Soil & Pan (g)	354.0	354.0
Wt. Lost Moisture (g)	23.0	94.9
Wt. of Pan Only (g)	6.9	6.9
Wt. of Dry Soil (g)	347.1	347.1
Moisture Content %	6.6	27.3
Wet Density PCF	102.9	130.7
Dry Density PCF	96.5	102.6

Init. Diameter (in)	2.406	(cm)	6.111
Init. Area (sq in)	4.547	(sq cm)	29.334
Init. Height (in)	3.013	(cm)	7.653
Vol. Bef. Consol. (cu ft)	0.00793		
Vol. After Consol. (cu ft)	0.00746		
Porosity %	44.94		

FLOW PUMP CALCULATIONS

Pump Setting (gear number)	4
Percentage of Pump setting	100
Q (cc/s)	1.16E-02
Height	2.985
Diameter	2.344
Pressure (psi)	0.164
Area after consol. (cm*cm)	27.848
Gradient	1.521
Permeability k (cm/s)	2.7E-04
Permeability k (m/s)	2.7E-06
Back Pressure (psi)	108.0
Cell Pressure (psi)	111.0
Ave. Effective Stress (psi)	2.918

Average temperature degree C: 22.1

Data entry by: SKL Date: 04/09/2014
Checked by: cm Date: 4/09/14
FileName: 2512_77_HarvardFlowPump-Perm-ASTMD-5084-R1_16.xls

TRIAXIAL TEST DATA
ASTM D 5084

CLIENT MWH

JOB NO. 2512-77

BORING NO.	North Borrow	SAMPLED	-
DEPTH	0-10'	TEST STARTED	3/20/14 CAL
SAMPLE NO.	NB-B2-04 85%	TEST FINISHED	4/08/14 CAL
LOCATION	Church Rock	SETUP NO.	1P
PROJECT NO.	-	SATURATED TEST	Yes
SOIL DESCR.	Remolded -#4	TEST TYPE	TX/Pbp/Tap Water
		CONF. PRES. PSF	432

SATURATION DATA

Cell Pres. (PSI)	Back Pres. (PSI)	Burette Reading (CC)		Pore Pressure (PSI)		Change	B
		Close	Open	Close	Open		
40.0	38.0	4.1	13.1				
50.0	48.0	18.5	20.3	37.3	44.5	7.2	0.72
60.0	58.0	20.6	22.0	47.9	55.3	7.4	0.74
70.0	68.0	22.3	23.6	58.0	66.1	8.1	0.81
80.0	78.0	24.1	25.5	68.6	77.0	8.4	0.84
90.0	88.0	25.9	27.1	77.9	86.8	8.9	0.89
100.0	98.0	28.4	29.6	88.5	97.5	9.0	0.90
110.0	108.0	30.0	31.2	98.6	107.8	9.2	0.92
120.0		31.8	32.0	108.5	118.0	9.5	0.95

CONSOLIDATION DATA

Elapsed Time (Min)	SQRT Time (Min)	Burette Reading (CC)	Volume Defl. (cc)
0.00	0.00	0.30	0.00
0.25	0.50	0.75	-0.45
0.5	0.71	0.75	-0.45
1	1.00	0.80	-0.50
2	1.41	0.80	-0.50
4	2.00	0.80	-0.50
9	3.00	0.85	-0.55
16	4.00	0.90	-0.60
30	5.48	0.90	-0.60
60	7.75	0.90	-0.60
120	10.95	0.95	-0.65
240	15.49	0.95	-0.65
360	18.97	1.00	-0.70

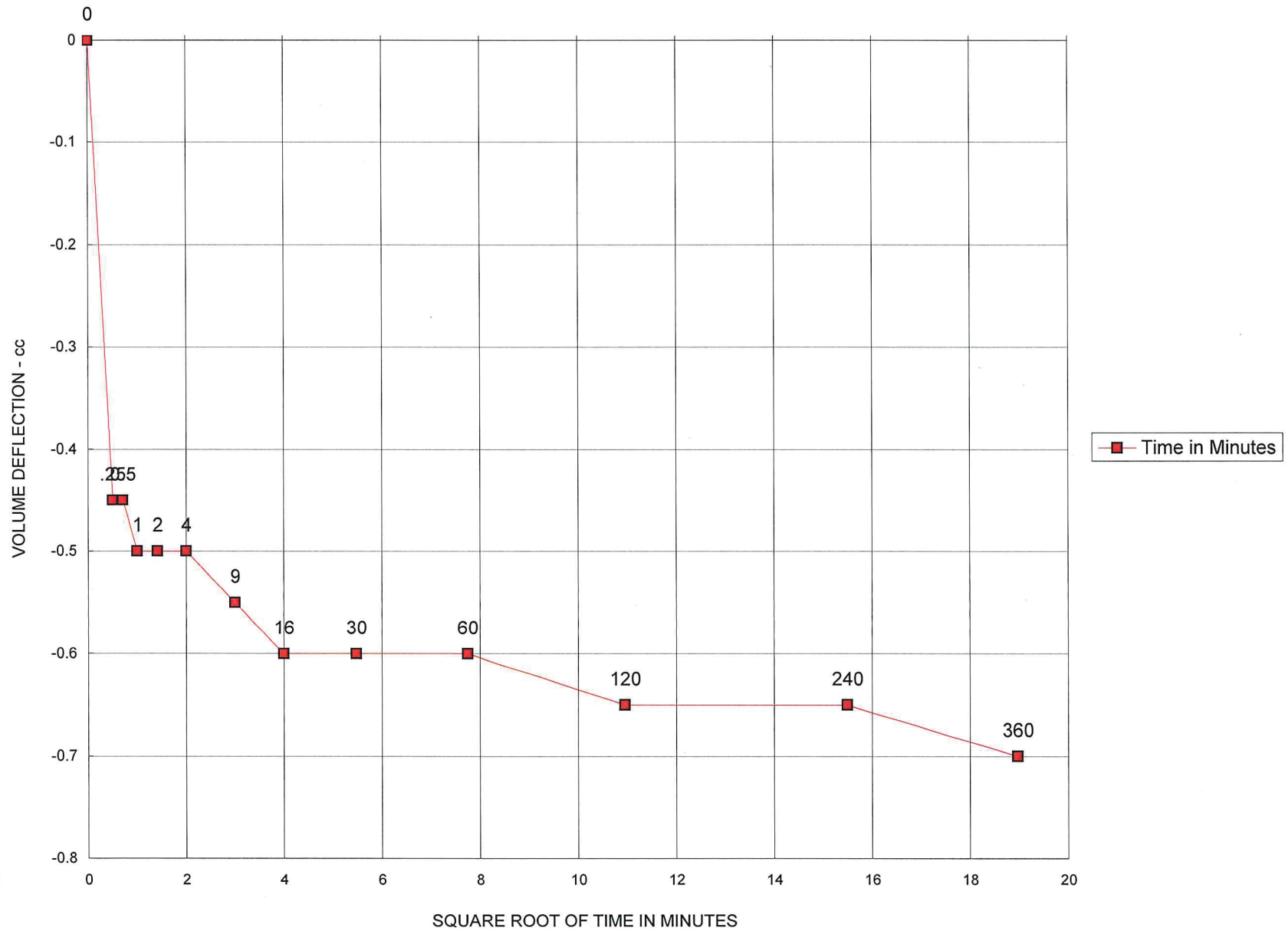
Initial Height (in)	3.013	Init. Vol. (CC)	224.522
Height Change (in)	0.028	Vol. Change (CC)	30.600
Ht. After Cons. (in)	2.985	Cell Exp. (CC)	17.256
Initial Area (sq in)	4.547	Net Change (CC)	13.345
Area After Cons. (sq in)	4.316	Cons. Vol. (CC)	211.178

Data entry by: SKL Date: 04/09/2014
 Checked by: SKL Date: 4/09/14
 FileName: 2512_77_HarvardFlowPump-Perm-ASTMD-5084-R1_16.xls



CONSOLIDATION DATA

North Borrow, 0-10', NB-B2-04 85%



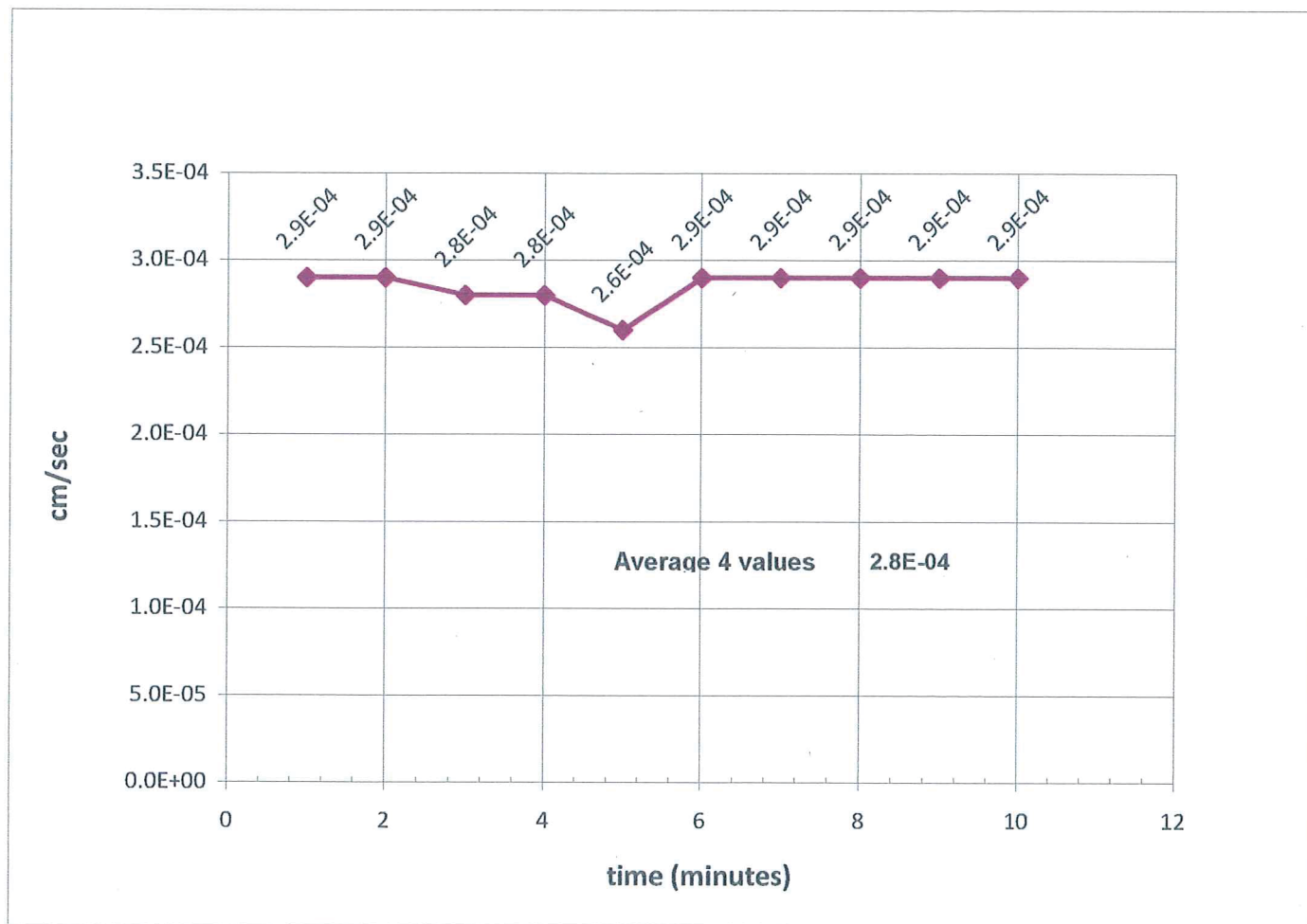


Preliminary Flow Pump Test Data ASTM D5084

Client: MWH
Job Number: 2512-77
Project: --
Location: Church Rock
Project Number: --

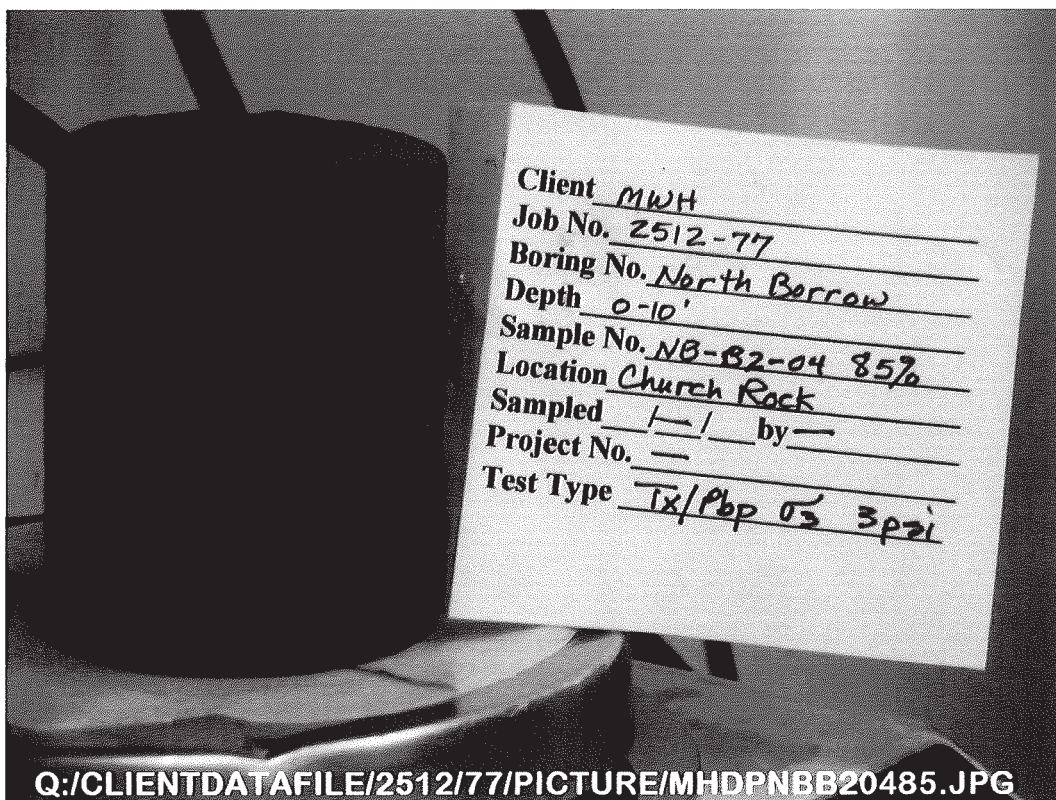
Boring Number: North Borrow
Depth: 0-10'
Sample Number: NB-B2-04 85%
Sampled Date: --
Test Date: 4/8/2014

Sampled By: --
Technician: CAL



Data Entered By: CAL
Date: 4/8/2014
File Name: 2512_77_PrelimPerm_ASTMD-5084-methodD_17.xls

Checked By: SW
Date: 4/9/14



Q:/CLIENTDATAFILE/2512/77/PICTURE/MHDPNBB20485.JPG

PERMEABILITY TEST - BACK PRESSURE SATURATED - FLOW PUMP METHOD
ASTM D 5084

CLIENT MWH

JOB NO. 2512-77

BORING NO.	West Borrow	SAMPLED	--
DEPTH	5-10'	TEST STARTED	03/20/14 CAL
SAMPLE NO.	WB-B1-06 85%	TEST FINISHED	04/07/14 DPM
LOCATION	Church Rock	CELL NUMBER	12P
PROJECT NO.	--	SATURATED TEST	Yes
SOIL DESCR.	Remolded -#4	TEST TYPE	TX/Pbp/Tap Water
		CONF. PRES. PSF	432

MOISTURE/DENSITY DATA	BEFORE TEST	AFTER TEST
Wt. Soil + Moisture (g)	370.9	435.4
Wt. Wet Soil & Pan (g)	377.9	442.4
Wt. Dry Soil & Pan (g)	351.0	351.0
Wt. Lost Moisture (g)	27.0	91.4
Wt. of Pan Only (g)	7.0	7.0
Wt. of Dry Soil (g)	344.0	344.0
Moisture Content %	7.8	26.6
Wet Density PCF	103.5	128.3
Dry Density PCF	96.0	101.3

Init. Diameter (in)	2.405	(cm)	6.109
Init. Area (sq in)	4.543	(sq cm)	29.310
Init. Height (in)	3.005	(cm)	7.633
Vol. Bef. Consol. (cu ft)	0.00790		
Vol. After Consol. (cu ft)	0.00748		
Porosity %	43.15		

FLOW PUMP CALCULATIONS

Pump Setting (gear number)	3
Percentage of Pump setting	100
Q (cc/s)	2.33E-02
Height	2.990
Diameter	2.346
Pressure (psi)	0.155
Area after consol. (cm*cm)	27.897
Gradient	1.435
Permeability k (cm/s)	5.8E-04
Permeability k (m/s)	5.8E-06
Back Pressure (psi)	98.0
Cell Pressure (psi)	101.0
Ave. Effective Stress (psi)	2.923
Average temperature degree C:	22.5

Data entry by: DAW/SKL Date: 04/09/2014
 Checked by: DPmrcac Date: 4/9/14
 FileName: 2512_77_HarvardFlowPump-Perm-ASTMD-5084_R1_15.xls

TRIAXIAL TEST DATA
ASTM D 5084

CLIENT MWH

JOB NO. 2512-77

BORING NO.	West Borrow	SAMPLED	--
DEPTH	5-10'	TEST STARTED	03/20/14 CAL
SAMPLE NO.	WB-B1-06 85%	TEST FINISHED	04/07/14 DPM
LOCATION	Church Rock	SETUP NO.	12P
PROJECT NO.	--	SATURATED TEST	Yes
SOIL DESCR.	Remolded -#4	TEST TYPE	TX/Pbp/Tap Water
		CONF. PRES. PSF	432

SATURATION DATA

Cell Pres. (PSI)	Back Pres. (PSI)	Burette Reading (CC)		Pore Pressure (PSI)		Change	B
		Close	Open	Close	Open		
		Close	Open	Close	Open		
40.0	38.0	2.2	15.5				
50.0	48.0	17.2	18.6	37.6	45.1	7.5	0.75
60.0	58.0	18.9	19.8	47.8	55.7	7.9	0.79
70.0	68.0	20.0	20.9	58.0	66.2	8.2	0.82
80.0	78.0	21.1	21.8	67.7	76.3	8.6	0.86
90.0	88.0	22.1	22.9	77.6	86.6	9.0	0.90
100.0	98.0	23.4	24.2	88.2	97.4	9.2	0.92
110.0		24.3	24.4	98.4	107.9	9.5	0.95

CONSOLIDATION DATA

Elapsed Time (Min)	SQRT Time (Min)	Burette Reading (CC)	Volume Defl. (cc)
0.00	0.00	0.10	0.00
0.25	0.50	0.45	-0.35
0.5	0.71	0.45	-0.35
1	1.00	0.45	-0.35
2	1.41	0.50	-0.40
4	2.00	0.50	-0.40
9	3.00	0.50	-0.40
16	4.00	0.50	-0.40
30	5.48	0.50	-0.40
60	7.75	0.50	-0.40
120	10.95	0.50	-0.40
240	15.49	0.50	-0.40
360	18.97	0.50	-0.40

Initial Height (in)	3.005	Init. Vol. (CC)	223.740
Height Change (in)	0.015	Vol. Change (CC)	23.500
Ht. After Cons. (in)	2.990	Cell Exp. (CC)	11.668
Initial Area (sq in)	4.543	Net Change (CC)	11.833
Area After Cons. (sq in)	4.324	Cons. Vol. (CC)	211.907

Data entry by: DAW/SKL Date: 04/09/2014

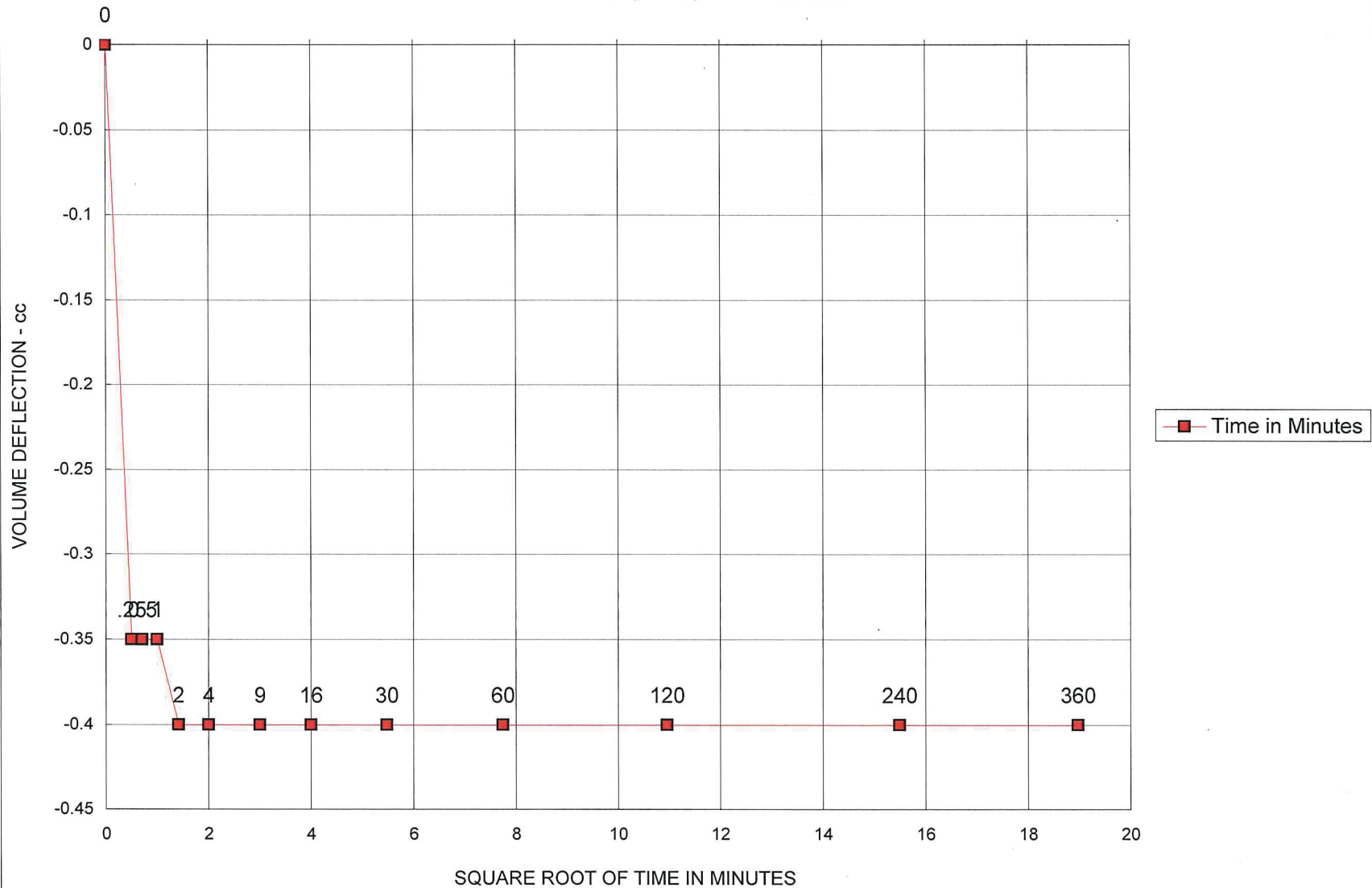
Checked by: CH RDP Date: 4/09/14

FileName: 2512_77_HarvardFlowPump-Perm-ASTMD-5084_R1_15.xls



CONSOLIDATION DATA

West Borrow, 5-10', WB-B1-06 85%

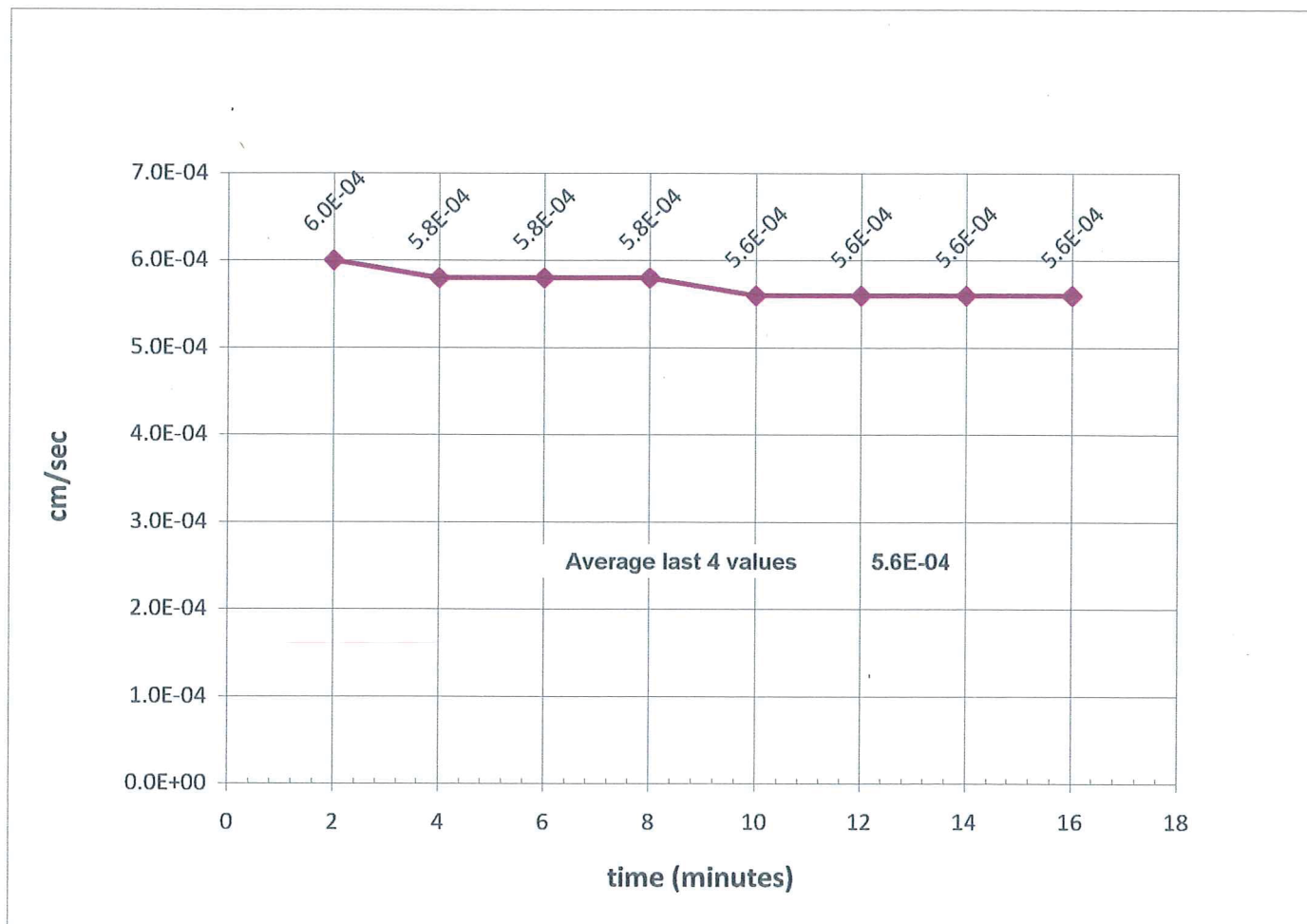


Preliminary Flow Pump Test Data ASTM D5084

Client: MWH
Job Number: 2512-77
Project: --
Location: Church Rock
Project Number: --

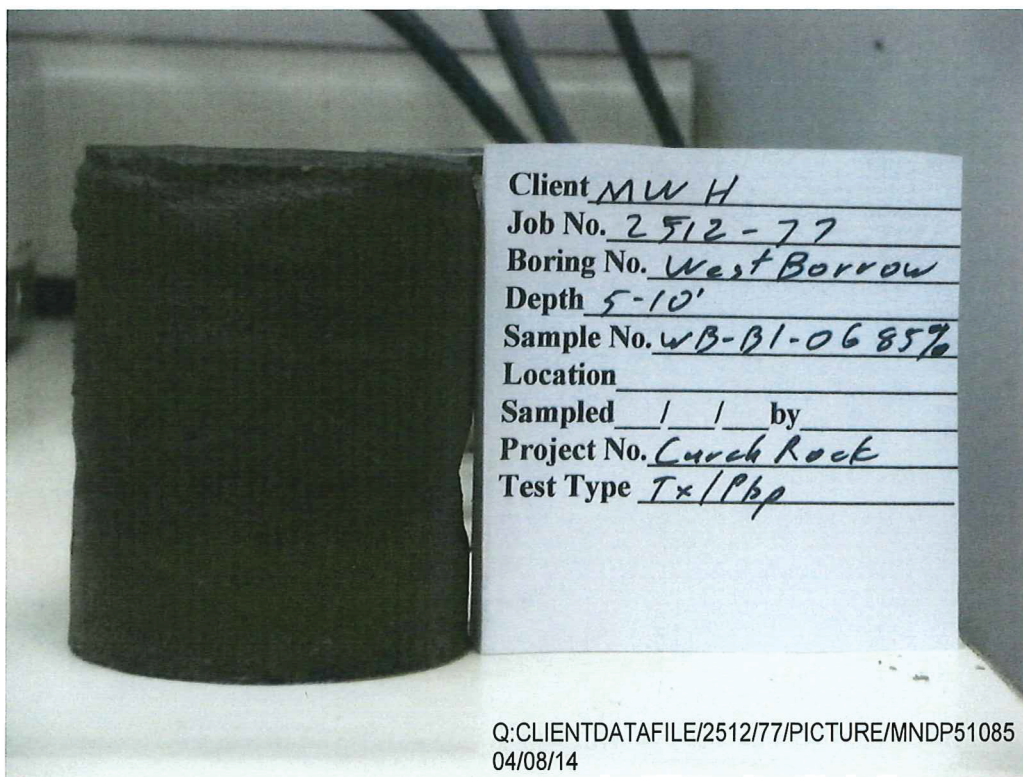
Boring Number: West Borrow
Depth: 5-10'
Sample Number: WB-B1-06 85%
Sampled Date: --
Test Date: 4/7/2014

Sampled By: --
Technician: DPM



Data Entered By: DPM
Date: 4/7/2014
File Name: 2512_77_PrelimPerm_ASTMD-5084-methodD_14.xls

Checked By: SPH
Date: 4/9/14



Client MW H
Job No. 2512-77
Boring No. West Borrow
Depth 5-10'
Sample No. WB-B1-0685%
Location _____
Sampled 1 / 1 by _____
Project No. Carch Rock
Test Type Tx/Pbp

Q:CLIENTDATAFILE/2512/77/PICTURE/MNDP51085
04/08/14