



BECHTEL NO.: 25352		MACTEC NO.: 6468-07-1777		COUNTY: Victoria, TX		GEOLOGIST: B. Ford							
SITE DESCRIPTION: Exelon Texas COL Project - Supplemental Investigation, Including UHS						GROUND WATER (ft)							
BORING NO.: B-3101		DRILL METHOD: Mud Rotary		SAMPLE METHODS: SPT		0 HR. ND							
GROUND SURFACE ELEV.: 79.8 ft (NAVD88)		NORTHING: 13,412,433		US ft (NAD83)		EASTING: 2,599,835 US ft (NAD83)							
TOTAL DEPTH: 300.5 ft		DRILL MACHINE: CME 55 LC Track		DRILLER: D. White (MACTEC RAL)		HAMMER (ID): 140 lb. Auto (MEC 02)							
DATE STARTED: 2/3/09		COMPLETED: 2/8/09		CASING DEPTH: 3.5 ft		BITS USED: 3 7/8" Drag Bit							
ELEV. (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT			SAMP. NO.	LOG	SOIL AND ROCK DESCRIPTION			
		0.5ft	0.5ft	0.5ft	0	20	40	60	80		100	MOI	
23.7					Continued from previous page								
													Drill without sampling from 0.0 - 149.0 feet. (continued)

EXELON COL BORE VICTORIA PHASE III.GPJ EXELON COL.GDT 8/10/09



SHEET 3 OF 6

BECHTEL NO.: 25352		MACTEC NO.: 6468-07-1777		COUNTY: Victoria, TX		GEOLOGIST: B. Ford								
SITE DESCRIPTION: Exelon Texas COL Project - Supplemental Investigation, Including UHS							GROUND WATER (ft)							
BORING NO.: B-3101		DRILL METHOD: Mud Rotary		SAMPLE METHODS: SPT		0 HR. ND								
GROUND SURFACE ELEV.: 79.8 ft (NAVD88)		NORTHING: 13,412,433		US ft (NAD83)		EASTING: 2,599,835 US ft (NAD83)								
						24 HR. ND								
TOTAL DEPTH: 300.5 ft		DRILL MACHINE: CME 55 LC Track		DRILLER: D. White (MACTEC RAL)		HAMMER (ID): 140 lb. Auto (MEC 02)								
DATE STARTED: 2/3/09		COMPLETED: 2/8/09		CASING DEPTH: 3.5 ft		BITS USED: 3 7/8" Drag Bit								
ELEV. (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	LOG MOI	SOIL AND ROCK DESCRIPTION		
		0.5ft	0.5ft	0.5ft	0	20	40	60	80	100				
-32.4					Continued from previous page									
													Drill without sampling from 0.0 - 149.0 feet. (continued)	
-69.2	149.0	13	18	21						SS-1		-69.2	149.0	FAT CLAY with sand (CH), light gray (10YR 7/2), brownish yellow (10YR 6/8), hard, moist, little fine grained sand, weak HCl reaction
-79.2	159.0	13	18	26						SS-2		-79.2	159.0	FAT CLAY (CH), light brownish gray (10YR 6/2), hard, moist, low fine grained sand, some calcium carbonate nodules, strong HCl reaction on calcium carbonate nodules
												-84.2	164.0	POORLY GRADED SAND (SP), very pale brown (10YR 8/3), very dense, wet, fine to coarse grained, subrounded to subangular quartz, trace calcium carbonate nodules, weak HCl reaction on sand and calcium carbonate nodules

EXELON COL BORE VICTORIA PHASE III/GPJ EXELON COL GDT 8/10/09



BECHTEL NO.: 25352		MACTEC NO.: 6468-07-1777		COUNTY: Victoria, TX		GEOLOGIST: B. Ford							
SITE DESCRIPTION: Exelon Texas COL Project - Supplemental Investigation, Including UHS							GROUND WATER (ft)						
BORING NO.: B-3101		DRILL METHOD: Mud Rotary		SAMPLE METHODS: SPT			0 HR.	ND					
GROUND SURFACE ELEV.: 79.8 ft (NAVD88)		NORTHING: 13,412,433		US ft (NAD83)		EASTING: 2,599,835 US ft (NAD83)		24 HR.	ND				
TOTAL DEPTH: 300.5 ft		DRILL MACHINE: CME 55 LC Track		DRILLER: D. White (MACTEC RAL)			HAMMER (ID): 140 lb. Auto (MEC 02)						
DATE STARTED: 2/3/09		COMPLETED: 2/8/09		CASING DEPTH: 3.5 ft			BITS USED: 3 7/8" Drag Bit						
ELEV. (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
		0.5ft	0.5ft	0.5ft	0	20	40	60	80	100			
-88.5					Continued from previous page								
-89.2	169.0	39	48	41						SS-3			POORLY GRADED SAND (SP), very pale brown (10YR 8/3), very dense, wet, fine to coarse grained, subrounded to subangular quartz, trace calcium carbonate nodules, weak HCl reaction on sand and calcium carbonate nodules (continued)
-99.2	179.0	34	50/0.4							SS-4			179.0 ft: trace fine gravel, no calcium carbonate nodules observed
-109.2	189.0	100/0.3								SS-5			189.0 ft: fine grained
-119.2	199.0	100/0.5								SS-6			
-129.2	209.0	10	13	17						SS-7			FAT CLAY (CH), light gray (10YR 7/1), mottled brownish yellow (10YR 6/6), very stiff, moist, few fine grained sand, weak HCl reaction on clay
-139.2	219.0	22	31	59						SS-8			214.0 - 216.0 ft: driller noted sand layer, not sampled
													219.0 ft: hard, calcium carbonate nodules common (little)
													221.0 - 227.0 ft: driller noted sand layer, not sampled

EXELON COL BORE VICTORIA PHASE III.GPJ EXELON COL.GDT 8/10/09



SHEET 5 OF 6

BECHTEL NO.: 25352			MACTEC NO.: 6468-07-1777			COUNTY: Victoria, TX			GEOLOGIST: B. Ford			
SITE DESCRIPTION: Exelon Texas COL Project - Supplemental Investigation, Including UHS									GROUND WATER (ft)			
BORING NO.: B-3101			DRILL METHOD: Mud Rotary			SAMPLE METHODS: SPT						
GROUND SURFACE ELEV.: 79.8 ft (NAVD88)			NORTHING: 13,412,433			US ft (NAD83)						EASTING: 2,599,835 US ft (NAD83)
TOTAL DEPTH: 300.5 ft			DRILL MACHINE: CME 55 LC Track			DRILLER: D. White (MACTEC RAL)			HAMMER (ID): 140 lb. Auto (MEC 02)			
DATE STARTED: 2/3/09			COMPLETED: 2/8/09			CASING DEPTH: 3.5 ft			BITS USED: 3 7/8" Drag Bit			
ELEV.	DEPTH	BLOW COUNT			BLOWS PER FOOT					SAMP.	LOG	SOIL AND ROCK DESCRIPTION
(ft)	(ft)	0.5ft	0.5ft	0.5ft	0	20	40	60	80	100		
-144.6					Continued from previous page							
-149.2	229.0	13	15	17	32					SS-9		FAT CLAY (CH), light gray (10YR 7/1), mottled brownish yellow (10YR 6/6), very stiff, moist, few fine grained sand, weak HCl reaction on clay (continued) 229.0 ft: calcium carbonate nodules
-159.2	239.0	26	34	35	69					SS-10		239.0 ft: light gray (10YR 7/1), mottled brownish yellow (10YR 6/6), dark staining, calcium carbonate nodules common (little)
-169.2	249.0	100/0.4			100/0.4					SS-11		249.0 ft: very pale brown (10YR 8/2), mottled brownish yellow (10YR 6/6), weak HCl reaction on clay, strong HCl reaction on calcium carbonate nodules
-179.2	259.0	19	50/0.5		69/1.0					SS-12		FAT CLAY with sand (CH), very pale brown (10YR 8/2), mottled brownish yellow (10YR 6/6), hard, moist, little fine grained sand, weak HCl reaction on clay, trace calcium carbonate nodules 264.0 ft: driller noted possible sand layer
-189.2	269.0	34	41	50/0.4	91/0.9					SS-13		POORLY GRADED SAND with clay (SP-SC), very pale brown (10YR 8/2), dark yellowish brown (10YR 4/6), very dense, wet, fine grained, weak HCl reaction, trace gravel and calcium carbonate nodules
-199.2	279.0	WOR	WOR	13	13					SS-14		

EXELON COL BORE VICTORIA PHASE III.GPJ EXELON COL.GDT 8/10/09



SHEET 6 OF 6

BECHTEL NO.: 25352		MACTEC NO.: 6468-07-1777		COUNTY: Victoria, TX		GEOLOGIST: B. Ford								
SITE DESCRIPTION: Exelon Texas COL Project - Supplemental Investigation, Including UHS							GROUND WATER (ft)							
BORING NO.: B-3101		DRILL METHOD: Mud Rotary		SAMPLE METHODS: SPT		0 HR. ND								
GROUND SURFACE ELEV.: 79.8 ft (NAVD88)		NORTHING: 13,412,433		US ft (NAD83)		EASTING: 2,599,835 US ft (NAD83)								
TOTAL DEPTH: 300.5 ft		DRILL MACHINE: CME 55 LC Track		DRILLER: D. White (MACTEC RAL)		HAMMER (ID): 140 lb. Auto (MEC 02)								
DATE STARTED: 2/3/09		COMPLETED: 2/8/09		CASING DEPTH: 3.5 ft		BITS USED: 3 7/8" Drag Bit								
ELEV. (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	LOG	SOIL AND ROCK DESCRIPTION		
		0.5ft	0.5ft	0.5ft	0	20	40	60	80	100	MOI			
-200.7					Continued from previous page									
-209.2	289.0	13	23	24						SS-15		FAT CLAY (Ch), light gray (10YR 7/1), mottled brownish yellow (10YR 6/6), stiff, moist, low fine grained sand, no HCl reaction (continued)		
-219.2	299.0	16	21	23						SS-16		289.0 ft: very pale brown (10YR 8/2), mottled brownish yellow (10YR 6/6), hard, trace fine grained sand, weak HCl reaction, trace calcium carbonate nodules		
												299.0 ft: trace black staining		
												-220.7	300.5	Boring Terminated at Elevation -220.7 ft

EXELON COL BORE VICTORIA PHASE III.GPJ EXELON COL.GDT 8/10/09



GEOTECHNICAL BORING LOG

Prepared By WSD Date 11-10-09Checked By RAH Date 11/10/09

SHEET 1 OF 6

BECHTEL NO.: 25352		MACTEC NO.: 6468-07-1777		COUNTY: Victoria, TX		GEOLOGIST: J. Moore					
SITE DESCRIPTION: Exelon Texas COL Project - Supplemental Investigation, Including UHS						GROUND WATER (ft)					
BORING NO.: B-3101UD		DRILL METHOD: Mud Rotary		SAMPLE METHODS: Shelby Tube/Pitcher Barrel		0 HR. ND					
GROUND SURFACE ELEV.: 79.8 ft (NAVD88)		NORTHING: 13,412,439		US ft (NAD83)		EASTING: 2,599,827 US ft (NAD83)					
TOTAL DEPTH: 291.5 ft		DRILL MACHINE: CME 55 LC Track		DRILLER: D. White (MACTEC RAL)		HAMMER (ID): NA					
DATE STARTED: 2/18/09		COMPLETED: 2/23/09		CASING DEPTH: 4.0 ft		BITS USED: 5 7/8" Step Drag Bit					
ELEV. (ft)	DEPTH (ft)	BLOW COUNT 0.5ft 0.5ft 0.5ft			BLOWS PER FOOT 0 20 40 60 80 100			SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
79.8					Ground Surface						79.8 0.0
											Drilling without SPT sampling for collection of undisturbed samples
71.8	8.0							UD-1			Begin sampling with Shelby Tube Sampler 8.0 ft: SANDY LEAN CLAY (CL), light gray (10YR 7/2), moist, fine grained sand, strong HCl reaction, recovery=1.95 ft
49.8	30.0							UD-2			30.0 ft: FAT CLAY (CH), brownish yellow (10YR 6/8), moist, trace fine grained sand, strong HCl reaction, recovery=2.0 ft
29.8	50.0							UD-3			Changed sample method to Pitcher Barrel Sampler 50.0 ft: Top of tube = POORLY GRADED SAND (SP), brownish yellow (10YR 6/8), wet, fine grained, few fines, strong HCl reaction; Bottom of tube = FAT CLAY (CH), light gray (10YR 7/2), moist, few fine grained sand, few calcium carbonate nodules, recovery=1.1 ft
26.8	53.0							UD-4			53.0 ft: POORLY GRADED SAND (SP), brownish yellow (10YR 6/8), wet, fine grained, few fines, no calcium carbonate nodules observed, strong HCl reaction, recovery=1.1 ft

EXELON COL BORE VICTORIA PHASE III/GPJ EXELON COL.GDT 10/20/09



SHEET 2 OF 6

BECHTEL NO.: 25352		MACTEC NO.: 6468-07-1777		COUNTY: Victoria, TX		GEOLOGIST: J. Moore							
SITE DESCRIPTION: Exelon Texas COL Project - Supplemental Investigation, Including UHS							GROUND WATER (ft)						
BORING NO.: B-3101UD		DRILL METHOD: Mud Rotary		SAMPLE METHODS: Shelby Tube/Pitcher Barrel		0 HR. ND							
GROUND SURFACE ELEV.: 79.8 ft (NAVD88)		NORTHING: 13,412,439		US ft (NAD83)		EASTING: 2,599,827 US ft (NAD83)							
24 HR. ND													
TOTAL DEPTH: 291.5 ft		DRILL MACHINE: CME 55 LC Track		DRILLER: D. White (MACTEC RAL)		HAMMER (ID): NA							
DATE STARTED: 2/18/09		COMPLETED: 2/23/09		CASING DEPTH: 4.0 ft		BITS USED: 5 7/8" Step Drag Bit							
ELEV. (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	LOG	SOIL AND ROCK DESCRIPTION	
		0.5ft	0.5ft	0.5ft	0	20	40	60	80	100	MOI		
23.7					Continued from previous page								
7.8	72.0									UD-5			72.0 ft: Top of tube = FAT CLAY with sand (CH), very pale brown (10YR 7/3), moist, little fine grained sand, strong HCl reaction; bottom of tube = POORLY GRADED SAND (SP), very pale brown (10YR 7/3), wet, fine grained, few fines, strong HCl reaction, recovery=1.4 ft.
													77.0 - 83.0 ft: rig chatter
-20.2	100.0									UD-6			100.0 ft: POORLY GRADED SAND (SP), very pale brown (10YR 8/2), wet, fine grained, few fines, strong HCl reaction, recovery=1.5 ft sample is hard, partially cemented and friable, bottom of tube has fine grained, rounded, calcium carbonate nodules

EXELON COL BORE VICTORIA PHASE III.OPJ EXELON COL.GDT 10/20/09

EXELON COL BORE VICTORIA PHASE IILGPJ EXELON COL.GDT 10/20/09

EXELON COL BORE VICTORIA PHASE III.GPJ EXELON COL.GDT 10/20/09



SHEET 5 OF 6

BECHTEL NO.: 25352		MACTEC NO.: 6468-07-1777		COUNTY: Victoria, TX		GEOLOGIST: J. Moore								
SITE DESCRIPTION: Exelon Texas COL Project - Supplemental Investigation, including UHS							GROUND WATER (ft)							
BORING NO.: B-3101UD		DRILL METHOD: Mud Rotary		SAMPLE METHODS: Shelby Tube/Pitcher Barrel			0 HR. ND							
GROUND SURFACE ELEV.: 79.8 ft (NAVD88)		NORTHING: 13,412,439		US ft (NAD83)		EASTING: 2,599,827	24 HR. ND							
TOTAL DEPTH: 291.5 ft		DRILL MACHINE: CME 55 LC Track		DRILLER: D. White (MACTEC RAL)		HAMMER (ID): NA								
DATE STARTED: 2/18/09		COMPLETED: 2/23/09		CASING DEPTH: 4.0 ft		BITS USED: 5 7/8" Step Drag Bit								
ELEV. (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT						SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
		0.5ft	0.5ft	0.5ft	0	20	40	60	80	100				
-144.6					Continued from previous page									
-149.2	229.0										UD-15		229.0 ft: FAT CLAY with sand (CH), light gray (10YR 7/2) mottled brownish yellow (10YR 6/6), moist, fine to medium grained sand, strong HCl reaction, recovery=1.9 ft	
-199.2	279.0										UD-16		Changed sample method to Shelby Tube Sampler	
													279.0 ft: SANDY LEAN CLAY (CL), light gray (10YR 7/2) mottled brownish yellow (10YR 6/6), moist, fine	

EXELON COL BORE VICTORIA PHASE III/GPJ EXELON COL.GDT 10/20/09



SHEET 6 OF 6

BECHTEL NO.: 25352		MACTEC NO.: 6468-07-1777		COUNTY: Victoria, TX		GEOLOGIST: J. Moore								
SITE DESCRIPTION: Exelon Texas COL Project - Supplemental Investigation, Including UHS							GROUND WATER (ft)							
BORING NO.: B-3101UD		DRILL METHOD: Mud Rotary		SAMPLE METHODS: Shelby Tube/Pitcher Barrel			0 HR. ND							
GROUND SURFACE ELEV.: 79.8 ft (NAVD88)		NORTHING: 13,412,439		US ft (NAD83)		EASTING: 2,599,827 US ft (NAD83)	24 HR. ND							
TOTAL DEPTH: 291.5 ft		DRILL MACHINE: CME 55 LC Track		DRILLER: D. White (MACTEC RAL)		HAMMER (ID): NA								
DATE STARTED: 2/18/09		COMPLETED: 2/23/09		CASING DEPTH: 4.0 ft		BITS USED: 5 7/8" Step Drag Bit								
ELEV. (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION	
		0.5ft	0.5ft	0.5ft	0	20	40	60	80	100				
-200.7					Continued from previous page									
-209.2	289.0									UD-17			grained sand, strong HCl reaction, recovery=2.0 ft	
													289.0 ft: LEAN CLAY (CL), light gray (5Y 7/2) mottled brownish yellow (10YR 6/6), moist, fine grained sand, strong HCl reaction, recovery=1.35 ft	
													-211.7	Boring Terminated at Elevation -211.7 ft
														291.5

EXELON COL BORE VICTORIA PHASE III.GPJ EXELON COL.GDT 10/20/09



GEOTECHNICAL BORING LOG

Prepared By WJD Date 8-10-09Checked By KAW Date 8-10-09

SHEET 1 OF 4

BECHTEL NO.: 25352		MACTEC NO.: 6468-07-1777		COUNTY: Victoria, TX		GEOLOGIST: B. Mabie							
SITE DESCRIPTION: Exelon Texas COL Project - Supplemental Investigation, Including UHS						GROUND WATER (ft)							
BORING NO.: B-3102		DRILL METHOD: Mud Rotary		SAMPLE METHODS: SPT		0 HR. ND							
GROUND SURFACE ELEV.: 79.9 ft (NAVD88)		NORTHING: 13,412,513		US ft (NAD83)		EASTING: 2,599,902 US ft (NAD83)							
TOTAL DEPTH: 200.0 ft		DRILL MACHINE: CME 550		DRILLER: L. Carter (MACTEC ATL)		HAMMER (ID): 140 lb. Auto (CME-08)							
DATE STARTED: 1/24/09		COMPLETED: 1/25/09		CASING DEPTH: 5.0 ft		BITS USED: 2 15/16" Drag Bit							
ELEV. (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT			SAMP. NO.	LOG MOI	SOIL AND ROCK DESCRIPTION			
		0.5ft	0.5ft	0.5ft	0	20	40	60	80	100			
79.9					Ground Surface							79.9	0.0
Drill without sampling from 0.0 - 148.5 feet.													

EXELON COL BORE VICTORIA PHASE III.GPJ EXELON COL.GDT 8/10/09

EXELON COL BORE VICTORIA PHASE III GPJ EXELON COL GDT 8/10/09



SHEET 3 OF 4

BECHTEL NO.: 25352		MACTEC NO.: 6468-07-1777		COUNTY: Victoria, TX		GEOLOGIST: B. Mabie							
SITE DESCRIPTION: Exelon Texas COL Project - Supplemental Investigation, Including UHS							GROUND WATER (ft)						
BORING NO.: B-3102		DRILL METHOD: Mud Rotary		SAMPLE METHODS: SPT		0 HR. ND							
GROUND SURFACE ELEV.: 79.9 ft (NAVD88)		NORTHING: 13,412,513		US ft (NAD83)		EASTING: 2,599,902 US ft (NAD83)							
TOTAL DEPTH: 200.0 ft		DRILL MACHINE: CME 550		DRILLER: L. Carter (MACTEC ATL)		HAMMER (ID): 140 lb. Auto (CME-08)							
DATE STARTED: 1/24/09		COMPLETED: 1/25/09		CASING DEPTH: 5.0 ft		BITS USED: 2 15/16" Drag Bit							
ELEV. (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	LOG MOI	SOIL AND ROCK DESCRIPTION	
		0.5ft	0.5ft	0.5ft	0	20	40	60	80	100			
-32.3					Continued from previous page								
													Drill without sampling from 0.0 - 148.5 feet. (continued)
													126.0 to 127.0 ft: hard drilling
-68.6	148.5	13	20	24						SS-1A/B			147.0 to 147.5 ft: hard drilling
													FAT CLAY (CH), light gray (10YR 7/2), hard, moist, few fine grained sand, strong HCl reaction, calcium carbonate nodules, caliche, orange staining
													POORLY GRADED SAND (SP), dense, wet, fine to coarse grained, no HCl reaction
-78.6	158.5	6	12	10						SS-2			
													FAT CLAY (CH), very pale brown (10YR 7/3), very stiff, moist, calcium carbonate nodules, black and orange staining

EXELON COL BORE VICTORIA PHASE III/GPJ EXELON COL GDT 8/10/09



SHEET 4 OF 4

BECHTEL NO.: 25352		MACTEC NO.: 6468-07-1777		COUNTY: Victoria, TX		GEOLOGIST: B. Mable							
SITE DESCRIPTION: Exelon Texas COL Project - Supplemental Investigation, Including UHS							GROUND WATER (ft)						
BORING NO.: B-3102		DRILL METHOD: Mud Rotary		SAMPLE METHODS: SPT		0 HR. ND							
GROUND SURFACE ELEV.: 79.9 ft (NAVD88)		NORTHING: 13,412,513		US ft (NAD83)		EASTING: 2,599,902 US ft (NAD83)							
TOTAL DEPTH: 200.0 ft		DRILL MACHINE: CME 550		DRILLER: L. Carter (MACTEC ATL)		HAMMER (ID): 140 lb. Auto (CME-08)							
DATE STARTED: 1/24/09		COMPLETED: 1/25/09		CASING DEPTH: 5.0 ft		BITS USED: 2 15/16" Drag Bit							
ELEV. (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	LOG	SOIL AND ROCK DESCRIPTION	
		0.5ft	0.5ft	0.5ft	0	20	40	60	80	100			
-88.4					Continued from previous page								
-88.6	168.5	25	49	50/0.4						SS-3		POORLY GRADED SAND (SP), very pale brown (10YR 7/3), very dense, wet, fine to coarse grained, trace gravel, weak HCl reaction	
-98.6	178.5	28	56	50/0.5						SS-4		178.5 ft: calcium carbonate nodules	
-108.6	188.5	60/0.2								SS-5		188.5 ft: fine to medium grained, strong HCl reaction	
-118.6	198.5	7	14	15						SS-6		193.0 - 195.0 ft: hard drilling, bit chatter 198.5 ft: very firm, fine to coarse grained, strong HCl reaction, 0.2-foot thick lense of fat clay found in the middle of the split-spoon sample, no calcium carbonate observed	
												Boring Terminated at Elevation -120.1 ft	

EXELON COL BORE VICTORIA PHASE III GPT EXELON COL GDT 8/10/09



GEOTECHNICAL BORING LOG

Prepared By WSD Date 8-10-09Checked By KAW Date 8-10-09

SHEET 1 OF 3

BECHTEL NO.: 25352		MACTEC NO.: 6468-07-1777		COUNTY: Victoria, TX		GEOLOGIST: G. Pillappa								
SITE DESCRIPTION: Exelon Texas COL Project - Supplemental Investigation, Including UHS							GROUND WATER (ft)							
BORING NO.: B-3103		DRILL METHOD: Mud Rotary		SAMPLE METHODS: SPT			0 HR.	ND						
GROUND SURFACE ELEV.: 80.0 ft (NAVD88)		NORTHING: 13,412,939		US ft (NAD83)	EASTING: 2,599,653		US ft (NAD83)	24 HR.	ND					
TOTAL DEPTH: 150.0 ft		DRILL MACHINE: CME 45 C Track		DRILLER: D. Rhodes (MACTEC RAL)			HAMMER (ID): 140 lb. Auto (MEC 12)							
DATE STARTED: 1/27/09		COMPLETED: 1/28/09		CASING DEPTH: 15.0 ft			BITS USED: 2 7/8" Drag Bit							
ELEV. (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	LOG	SOIL AND ROCK DESCRIPTION		
		0.5ft	0.5ft	0.5ft	0	20	40	60	80				100	
80.0					Ground Surface							80.0	0.0	
80.0	0.0	2	2	2	●4					SS-1		FAT CLAY (CH), black (N 2.5/), soft, dry to moist, few fine grained sand, no HCl reaction, trace organics and roots		
76.5	3.5	2	2	3	●5					SS-2		3.5 ft: gray (5Y 5/1), firm, moist		
74.0	6.0	2	2	4	●6					SS-3		6.0 ft: light olive gray (5Y 6/2), no HCl reaction on clay, trace calcium carbonate nodules, strong HCl reaction on calcium carbonate nodules		
71.3	8.7	3	8	12	●20					SS-4		FAT CLAY with sand (CH), olive yellow (2.5Y 6/6), very stiff, moist, little fine grained sand, trace calcium carbonate nodules and black staining, strong HCl reaction on calcium carbonate nodules	71.3	8.7
69.0	11.0	10	10	12	●22					SS-5		11.0 ft: brownish yellow (10YR 6/6), light olive gray (5Y 6/2)		
66.0	14.0	6	10	15	●25					SS-6		FAT CLAY (CH), reddish brown (7.5YR 6/6), gray (5Y 5/1), very stiff, moist, few fine grained sand, weak HCl reaction, trace calcium carbonate nodules	66.0	14.0
61.6	18.4	3	4	5	●9					SS-7		18.4 ft: yellowish brown (10YR 5/6), light olive gray (5Y 6/2), stiff, trace black staining, no calcium carbonate nodules observed, weak HCl reaction on clay		
56.6	23.4	4	8	11	●19					SS-8		23.4 ft: light yellowish brown (2.5Y 6/3), very stiff, no HCl reaction on clay, trace calcium carbonate nodules		
51.6	28.4	4	5	7	●12					SS-9		28.4 ft: brownish yellow (10YR 6/6), stiff, strong HCl reaction on calcium carbonate nodules		
46.5	33.5	4	6	8	●14					SS-10		33.5 ft: weak HCl reaction		
41.5	38.5	5	8	11	●19					SS-11		38.5 ft: very stiff, no HCl reaction on clay		
36.5	43.5	6	8	11	●19					SS-12		43.5 ft: SANDY FAT CLAY (CH), yellowish brown (10YR 5/6), mottled light olive gray (5Y 6/2), moist, very stiff, some fine grained sand, trace calcium carbonate nodules and sand seam (1-inch thick), strong HCl reaction on calcium carbonate nodules	36.5	43.5
31.5	48.5	7	11	15	●20					SS-13		FAT CLAY with sand (CH), yellowish brown (10YR 5/6), mottled light olive gray (5Y 6/2), moist, very stiff, little fine grained sand, trace calcium carbonate nodules, strong HCl reaction on calcium carbonate nodules	31.5	48.5
26.5	53.5	10	17	23	●40					SS-14			26.5	53.5

EXELON COL BORE VICTORIA PHASE III.GPJ EXELON COL.GDT 8/10/09



SHEET 2 OF 3

BECHTEL NO.: 25352		MACTEC NO.: 6468-07-1777		COUNTY: Victoria, TX		GEOLOGIST: G. Pillappa																
SITE DESCRIPTION: Exelon Texas COL Project - Supplemental Investigation, Including UHS							GROUND WATER (ft)															
BORING NO.: B-3103		DRILL METHOD: Mud Rotary		SAMPLE METHODS: SPT		0 HR. ND																
GROUND SURFACE ELEV.: 80.0 ft (NAVD88)		NORTHING: 13,412,939 US ft (NAD83)		EASTING: 2,599,653 US ft (NAD83)		24 HR. ND																
TOTAL DEPTH: 150.0 ft		DRILL MACHINE: CME 45 C Track		DRILLER: D. Rhodes (MACTEC RAL)		HAMMER (ID): 140 lb. Auto (MEC 12)																
DATE STARTED: 1/27/09		COMPLETED: 1/28/09		CASING DEPTH: 15.0 ft		BITS USED: 2 7/8" Drag Bit																
ELEV. (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	LOG MOI	SOIL AND ROCK DESCRIPTION										
		0.5ft	0.5ft	0.5ft	0	20	40	60	80	100												
23.9					Continued from previous page																	
21.5	58.5	13	20	25								21.5	58.5	SANDY FAT CLAY (CH), light gray (5Y 7/1), mottled yellowish brown (10YR 5/6), moist, hard, some fine grained sand, strong HCl reaction, trace calcium carbonate nodules (continued)								
16.5	63.5	4	6	7										FAT CLAY (CH), light gray (5Y 7/1), moist, hard, few fine grained sand, strong HCl reaction on calcium carbonate nodules, little calcium carbonate nodules								
11.5	68.5	4	6	7										63.5 ft: light brownish gray (2.5Y 6/2), yellowish brown (10YR 5/6), moist, stiff, no HCl reaction, no calcium carbonate nodules observed								
6.5	73.5	7	10	11										68.5 ft: dark gray (10YR 4/1), trace black staining								
1.5	78.5	7	11	14										73.5 ft: pale brown (10YR 6/3), brownish yellow (10YR 6/6), very stiff, no HCl reaction on clay, trace calcium carbonate nodules								
-3.5	83.5	50/0.1												78.5	83.5	SANDY FAT CLAY (CH), light olive gray (5Y 6/2), very stiff, moist, some fine grained sand, no HCl reaction on clay, little carbonate nodules and 1-inch calcium carbonate seam						
-8.5	88.5	9	9	15												83.5 ft: white (5Y 8/1), hard, some fine to medium grained sand, strong HCl reaction, caliche						
-13.5	93.5	17	25	48												88.5	93.5	FAT CLAY with sand (CH), light gray (5Y 7/1), very stiff, moist, little fine grained sand, strong HCl reaction on calcium carbonate nodules, trace calcium carbonate nodules				
-18.5	98.5	50/0.5																93.5 ft: yellowish brown (10YR 5/6), hard, few calcium carbonate nodules				
-28.5	108.5	6	5	8														98.5	108.5	SANDY FAT CLAY (CH), pale yellow (2.5Y 3/2), yellow (2.5Y 8/6), hard, moist, fine to medium grained, some sand, strong HCl reaction on calcium carbonate nodules and shell fragments, little calcium carbonate nodules and shell fragments		
																				108.5		FAT CLAY (CH), light olive gray (5Y 6/2), brownish yellow (10YR 6/6), stiff, moist, few fine grained sand, no HCl reaction, trace black staining

EXELON COL BORE VICTORIA PHASE III.GPJ EXELON COL.GDT 8/10/09



SHEET 3 OF 3

BECHTEL NO.: 25352		MACTEC NO.: 6468-07-1777		COUNTY: Victoria, TX		GEOLOGIST: G. Pillappa						
SITE DESCRIPTION: Exelon Texas COL Project - Supplemental Investigation, Including UHS							GROUND WATER (ft)					
BORING NO.: B-3103		DRILL METHOD: Mud Rotary		SAMPLE METHODS: SPT			0 HR. ND					
GROUND SURFACE ELEV.: 80.0 ft (NAVD88)		NORTHING: 13,412,939		US ft (NAD83)		EASTING: 2,599,653 US ft (NAD83)						
TOTAL DEPTH: 150.0 ft		DRILL MACHINE: CME 45 C Track		DRILLER: D. Rhodes (MACTEC RAL)		HAMMER (ID): 140 lb. Auto (MEC 12)						
DATE STARTED: 1/27/09		COMPLETED: 1/28/09		CASING DEPTH: 15.0 ft		BITS USED: 2 7/8" Drag Bit						
ELEV. (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	LOG	SOIL AND ROCK DESCRIPTION
		0.5ft	0.5ft	0.5ft	0	20	40	60	80	100		
-32.2					Continued from previous page							
-38.5	118.5	8	10	14	24					SS-25		FAT CLAY (CH), light olive gray (5Y 6/2), brownish yellow (10YR 6/6), stiff, moist, few fine grained sand, no HCl reaction, trace black staining (continued)
-48.5	128.5	8	19	46	55					SS-26		118.5 ft: gray (5Y 6/1), very stiff, no HCl reaction on clay, trace calcium carbonate nodules
-58.5	138.5	17	16	17	33					SS-27		-48.5 SANDY FAT CLAY (CH), very pale brown (10YR 8/2), yellowish brown (10YR 5/6), hard, moist, some fine grained sand, strong HCl reaction
-68.5	148.5	16	37	35	72					SS-28		-58.5 POORLY GRADED SAND with clay (SP-SC), pale yellow (2.5Y 7.3), dense, wet, fine grained, few fines, no HCl reaction
												148.5 ft: very dense, strong HCl reaction
												Boring Terminated at Elevation -70.0 ft

EXELON COL BORE VICTORIA PHASE III.GPJ EXELON COL.GDT 8/10/09



GEOTECHNICAL BORING LOG

Prepared By WJD Date 11/10/09Checked By DAU Date 11/10/09

SHEET 1 OF 6

BECHTEL NO.: 25352		MACTEC NO.: 6468-07-1777		COUNTY: Victoria, TX		GEOLOGIST: R. Harwell									
SITE DESCRIPTION: Exelon Texas COL Project - Supplemental Investigation, Including UHS							GROUND WATER (ft)								
BORING NO.: B-3104		DRILL METHOD: Mud Rotary		SAMPLE METHODS: SPT			0 HR. ND								
GROUND SURFACE ELEV.: 80.6 ft (NAVD88)		NORTHING: 13,412,202		US ft (NAD83)		EASTING: 2,599,517 US ft (NAD83)		24 HR. ND							
TOTAL DEPTH: 300.1 ft		DRILL MACHINE: CME 550			DRILLER: M. Casteel (MACTEC CLT)		HAMMER (ID): 140 lb. Auto (ME 05)								
DATE STARTED: 1/23/09		COMPLETED: 1/28/09		CASING DEPTH: 20.0 ft			BITS USED: 3 7/8" Drag Bit								
ELEV.	DEPTH	BLOW COUNT			BLOWS PER FOOT					SAMP.	LOG	SOIL AND ROCK DESCRIPTION			
(ft)	(ft)	0.5ft	0.5ft	0.5ft	0	20	40	60	80	100			NO.	MOI	
80.6					Ground Surface								80.6	0.0	
80.6	0.0	3	2	4						SS-1		80.6	LEAN CLAY (CL), black (2.5Y 2.5/1), firm, dry, few fine grained sand, no HCl reaction, trace roots		
77.1	3.5	4	3	5							SS-2				3.5 ft: gray (2.5Y 5/1), moist, black staining
74.1	6.5	4	4	5							SS-3		74.1	6.5	FAT CLAY (CH), light gray (2.5Y 7/2), stiff, moist, few fine grained sand, no HCl reaction on clay, trace calcium carbonate nodules, strong HCl reaction on calcium carbonate nodules, black staining
72.2	8.4	4	5	7							SS-4				8.4 ft: light brownish gray (2.5Y 6/2), weak HCl reaction on clay
69.9	10.7	5	8	8							SS-5				10.7 ft: very stiff, few calcium carbonate nodules, strong HCl reaction on calcium carbonate nodules
66.9	13.7	5	7	9							SS-6				
61.8	18.8	4	5	6							SS-7				18.8 ft: yellowish brown (10YR 5/8), stiff, no HCl reaction on clay, trace calcium carbonate nodules, strong HCl reaction on calcium carbonate nodules
56.8	23.8	4	5	6							SS-8				23.8 ft: no calcium carbonate nodules observed
51.9	28.7	5	6	8							SS-9				28.7 ft: pale yellow (2.5Y 8/4), brownish yellow (10YR 6/8)
47.1	33.5	9	12	13							SS-10				33.5 ft: yellow (10YR 7/6), very stiff, weak HCl reaction
41.9	38.7	5	6	9							SS-11				38.7 ft: light yellowish brown (10YR 6/4), stiff, no HCl reaction
37.0	43.6	6	9	11							SS-12				43.6 ft: very stiff, no HCl reaction on clay, trace calcium carbonate nodules, strong HCl reaction on calcium carbonate nodules
32.0	48.6	6	8	9							SS-13				48.6 ft: very pale brown (10YR 7/3), no HCl reaction on clay, no calcium carbonate nodules observed
27.1	53.5	8	12	17							SS-14				53.5 ft: no HCl reaction on clay, few calcium carbonate nodules, strong HCl reaction on calcium carbonate nodules

EXELON COL BORE VICTORIA PHASE III.GPJ EXELON COL.GDT 10/20/09



SHEET 2 OF 6

BECHTEL NO.: 25352		MACTEC NO.: 6468-07-1777		COUNTY: Victoria, TX		GEOLOGIST: R. Harwell							
SITE DESCRIPTION: Exelon Texas COL Project - Supplemental Investigation, Including UHS						GROUND WATER (ft)							
BORING NO.: B-3104		DRILL METHOD: Mud Rotary		SAMPLE METHODS: SPT		0 HR. ND							
GROUND SURFACE ELEV.: 80.6 ft (NAVD88)		NORTHING: 13,412,202 US ft (NAD83)		EASTING: 2,599,517 US ft (NAD83)		24 HR. ND							
TOTAL DEPTH: 300.1 ft		DRILL MACHINE: CME 550		DRILLER: M. Casteel (MACTEC CLT)		HAMMER (ID): 140 lb. Auto (ME 05)							
DATE STARTED: 1/23/09		COMPLETED: 1/28/09		CASING DEPTH: 20.0 ft		BITS USED: 3 7/8" Drag Bit							
ELEV. (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	LOG	SOIL AND ROCK DESCRIPTION	
		0.5ft	0.5ft	0.5ft	0	20	40	60	80	100	MOI		
24.5					Continued from previous page								
22.1	58.5												FAT CLAY (CH), light gray (2.5Y 7/2), stiff, moist, few fine grained sand, no HCl reaction on clay, trace calcium carbonate nodules, strong HCl reaction on calcium carbonate nodules, black staining (continued)
		13	13	12									58.5 ft: light yellowish brown (2.5Y 6/8), trace fine grained sand, weak HCl reaction, no calcium carbonate nodules observed
17.0	63.6												
		8	9	12									63.6 ft: pale yellow (2.5Y 8/2), very stiff, no HCl reaction on clay, trace calcium carbonate nodules, strong HCl reaction on calcium carbonate nodules
12.0	68.6												
		6	9	13									68.6 ft: light brownish gray (2.5Y 6/2), few calcium carbonate nodules
7.0	73.6												
		8	10	14									73.6 ft: pale yellow (2.5Y 7/4), trace calcium carbonate nodules
2.1	78.5												
		WOH	WOH	5									CLAYEY SAND (SC), light gray (2.5Y 7/2), loose, moist, fine grained, some fines, no HCl reaction, brown staining
-2.9	83.5												
		17	15	21									83.5 ft: dense
-7.9	88.5												
		33	50/0.4										POORLY GRADED SAND (SP), pale yellow (2.5Y 8/3), very dense, wet, fine grained, trace to few fines, no HCl reaction

EXELON COL BORE VICTORIA PHASE III.GPJ EXELON COL.GDT 10/20/09



SHEET 3 OF 6

BECHTEL NO.: 25352		MACTEC NO.: 6468-07-1777		COUNTY: Victoria, TX		GEOLOGIST: R. Harwell						
SITE DESCRIPTION: Exelon Texas COL Project - Supplemental Investigation, Including UHS							GROUND WATER (ft)					
BORING NO.: B-3104		DRILL METHOD: Mud Rotary		SAMPLE METHODS: SPT		0 HR. ND						
GROUND SURFACE ELEV.: 80.6 ft (NAVD88)		NORTHING: 13,412,202 US ft (NAD83)		EASTING: 2,599,517 US ft (NAD83)		24 HR. ND						
TOTAL DEPTH: 300.1 ft		DRILL MACHINE: CME 550		DRILLER: M. Casteel (MACTEC CLT)		HAMMER (ID): 140 lb. Auto (ME 05)						
DATE STARTED: 1/23/09		COMPLETED: 1/28/09		CASING DEPTH: 20.0 ft		BITS USED: 3 7/8" Drag Bit						
ELEV. (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	LOG MOI	SOIL AND ROCK DESCRIPTION
		0.5ft	0.5ft	0.5ft	0	20	40	60	80	100		
-31.6					Continued from previous page							
-38.0	118.6	10	11	16								FAT CLAY (CH), pale yellow (2.5Y 8/2), brownish yellow (10YR 6/8), very stiff, moist, trace fine grained sand, no HCl reaction (continued)
												118.6 ft: light gray (2.5Y 7/2), no HCl reaction on clay, trace calcium carbonate nodules, strong HCl reaction on calcium carbonate nodules
-48.0	128.6	17	17	24								CLAYEY SAND (SC), light gray (2.5Y 7/2), dense, moist, some fine grained, no HCl reaction
-58.0	138.6	50/0.1										SILTY SAND (SM), pale yellow (2.5Y 8/2), very dense, moist, fine grained, little fines, strong HCl reaction
-68.0	148.6	23	28	31								POORLY GRADED SAND (SP), light gray (2.5Y 7/2), very dense, wet, fine grained, weak HCl reaction
-78.0	158.6	14	15	21								FAT CLAY (CH), pale yellow (2.5Y 7/3), yellow (2.5Y 7/6), hard, moist, few fine grained sand, no HCl reaction on clay, few calcium carbonate nodules, strong HCl reaction on calcium carbonate nodules
												POORLY GRADED SAND (SP), pale yellow (2.5Y 7/3), very dense, wet, fine to medium grained, few fines, no HCl reaction

EXELON COL BORE VICTORIA PHASE III GPJ EXELON COL.GDT 10/20/09



SHEET 4 OF 6

BECHTEL NO.: 25352		MACTEC NO.: 6468-07-1777		COUNTY: Victoria, TX		GEOLOGIST: R. Harwell						
SITE DESCRIPTION: Exelon Texas COL Project - Supplemental Investigation, Including UHS							GROUND WATER (ft)					
BORING NO.: B-3104		DRILL METHOD: Mud Rotary		SAMPLE METHODS: SPT			0 HR.	ND				
GROUND SURFACE ELEV.: 80.6 ft (NAVD88)		NORTHING: 13,412,202		US ft (NAD83)		EASTING: 2,599,517 US ft (NAD83)		24 HR.	ND			
TOTAL DEPTH: 300.1 ft		DRILL MACHINE: CME 550		DRILLER: M. Casteel (MACTEC CLT)			HAMMER (ID): 140 lb. Auto (ME 05)					
DATE STARTED: 1/23/09		COMPLETED: 1/28/09		CASING DEPTH: 20.0 ft			BITS USED: 3 7/8" Drag Bit					
ELEV. (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	LOG MOI	SOIL AND ROCK DESCRIPTION
		0.5ft	0.5ft	0.5ft	0	20	40	60	80	100		
-87.7					Continued from previous page							
-88.1	168.6	44	50	0.3						940.8	SS-30	POORLY GRADED SAND (SP), pale yellow (2.5Y 7/3), very dense, wet, fine to medium grained, few fines, no HCl reaction (continued)
												174.0 to 178.2 ft: hard drilling
-98.0	178.6	18	20	21							SS-31A/B	CLAYEY SAND (SC), pale yellow (2.5Y 8/2), dense, moist, fine grained, some fines, weak HCl reaction
												FAT CLAY with sand (CH), light gray (2.5Y 7/2), hard, moist, little fine grained sand, weak HCl reaction
												182.5
-108.0	188.6	38	50	0.5						887.0	SS-32	POORLY GRADED SAND (SP), pale yellow (2.5Y 8/3), very dense, wet, fine to medium grained, trace to little fines, no HCl reaction
												193.0 ft: field log indicates change in soil type, but standard penetration test at 198.6 ft resulted in no recovery. Soil type at 198.6 ft assumed to be same as above
-118.0	198.6	12	13	21							SS-33	198.6 ft: no recovery, dense
-128.0	208.6	15	26	44							SS-34	CLAYEY SAND (SC), pale yellow (2.5Y 7/2), very dense, moist, fine grained, little fines, no HCl reaction
-137.9	218.5	26	38	49							SS-35	FAT CLAY (CH), light gray (2.5Y 7/2), hard, moist, few fine grained sand, no HCl reaction on clay, trace calcium carbonate nodules, strong HCl reaction on calcium carbonate nodules
												213.0

EXELON COL BORE VICTORIA PHASE III GPJ EXELON COL.GDT 10/20/09



BECHTEL NO.: 25352		MACTEC NO.: 6468-07-1777		COUNTY: Victoria, TX		GEOLOGIST: R. Harwell							
SITE DESCRIPTION: Exelon Texas COL Project - Supplemental Investigation, Including UHS							GROUND WATER (ft)						
BORING NO.: B-3104		DRILL METHOD: Mud Rotary		SAMPLE METHODS: SPT			0 HR.	ND					
GROUND SURFACE ELEV.: 80.6 ft (NAVD88)		NORTHING: 13,412,202		US ft (NAD83)		EASTING: 2,599,517	24 HR.	ND					
TOTAL DEPTH: 300.1 ft		DRILL MACHINE: CME 550		DRILLER: M. Casteel (MACTEC CLT)			HAMMER (ID): 140 lb. Auto (ME 05)						
DATE STARTED: 1/23/09		COMPLETED: 1/28/09		CASING DEPTH: 20.0 ft			BITS USED: 3 7/8" Drag Bit						
ELEV. (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	LOG	SOIL AND ROCK DESCRIPTION	
		0.5ft	0.5ft	0.5ft	0	20	40	60	80	100	MOI		
-143.8					Continued from previous page								
-148.0	228.6	14	15	19									FAT CLAY (CH), light gray (2.5Y 7/2), hard, moist, few fine grained sand, no HCl reaction on clay, trace calcium carbonate nodules, strong HCl reaction on calcium carbonate nodules (continued)
													228.6 ft: pale yellow (2.5Y 8/2), brownish yellow (10YR 6/6), weak HCl reaction, no calcium carbonate nodules observed
-158.0	238.6	23	32	50									SILTY SAND (SM), pale yellow (2.5Y 8/2), very dense, moist, fine grained, little fines, weak HCl reaction
-168.0	248.6	30	43	50/0.4									POORLY GRADED SAND (SP), pale yellow (2.5Y 7/3), very dense, moist, fine grained, trace to few fines, weak HCl reaction
-178.0	258.6	50/0.1											258.6 ft: no recovery
-188.0	268.6	27	33	33									FAT CLAY (CH), pale yellow (2.5Y 8/2 and 5Y 8/2), hard, moist, few fine grained sand, weak HCl reaction on clay, few calcium carbonate nodules, strong HCl reaction on calcium carbonate nodules
-197.9	278.5	34	38	39									

EXELON COL BORE VICTORIA PHASE III.GPJ EXELON COL.GDT 10/20/09



SHEET 6 OF 6

BECHTEL NO.: 25352		MACTEC NO.: 6468-07-1777		COUNTY: Victoria, TX		GEOLOGIST: R. Harwell								
SITE DESCRIPTION: Exelon Texas COL Project - Supplemental Investigation, Including UHS							GROUND WATER (ft)							
BORING NO.: B-3104		DRILL METHOD: Mud Rotary		SAMPLE METHODS: SPT		0 HR. ND								
GROUND SURFACE ELEV.: 80.6 ft (NAVD88)		NORTHING: 13,412,202		US ft (NAD83)		EASTING: 2,599,517 US ft (NAD83)								
TOTAL DEPTH: 300.1 ft		DRILL MACHINE: CME 550		DRILLER: M. Casteel (MACTEC CLT)		HAMMER (ID): 140 lb. Auto (ME 05)								
DATE STARTED: 1/23/09		COMPLETED: 1/28/09		CASING DEPTH: 20.0 ft		BITS USED: 3 7/8" Drag Bit								
ELEV. (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	LOG	SOIL AND ROCK DESCRIPTION		
		0.5ft	0.5ft	0.5ft	0	20	40	60	80	100				
-199.9					Continued from previous page									
-208.0	288.6	19	22	27						SS-42		FAT CLAY (CH), pale yellow (2.5Y 8/2 and 5Y 8/2), hard, moist, few fine grained sand, weak HCl reaction on clay, few calcium carbonate nodules, strong HCl reaction on calcium carbonate nodules (continued)		
-218.0	298.6	16	21	27						SS-43		288.6 ft: trace fine grained sand, no calcium carbonate nodules observed		
												298.6 ft: black staining		
												-219.5	300.1	Boring Terminated at Elevation -219.5 ft

EXELON COL BORE VICTORIA PHASE III.GPJ EXELON COL.GDT 10/20/09



GEOTECHNICAL BORING LOG

Prepared By WBD Date 11-10-09Checked By DM Date 11/10/09

SHEET 1 OF 6

BECHTEL NO.: 25352		MACTEC NO.: 6468-07-1777		COUNTY: Victoria, TX		GEOLOGIST: L. Bisson / T. Quigley / D. Haug							
SITE DESCRIPTION: Exelon Texas COL Project - Supplemental Investigation, Including UHS							GROUND WATER (ft)						
BORING NO.: B-3105		DRILL METHOD: Mud Rotary		SAMPLE METHODS: SPT		0 HR. ND							
GROUND SURFACE ELEV.: 80.5 ft (NAVD88)		NORTHING: 13,412,124		US ft (NAD83)		EASTING: 2,599,612 US ft (NAD83)							
TOTAL DEPTH: 300.3 ft		DRILL MACHINE: CME 550		DRILLER: M. Casteel (MACTEC CLT)		HAMMER (ID): 140 lb. Auto (ME 05)							
DATE STARTED: 2/17/09		COMPLETED: 2/25/09		CASING DEPTH: 20.0 ft		BITS USED: 3 7/8" Drag Bit							
ELEV. (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	LOG MOI	SOIL AND ROCK DESCRIPTION	
		0.5ft	0.5ft	0.5ft	0	20	40	60	80				100
80.5					Ground Surface							80.5	0.0
80.5	0.0	4	5	5	●10					SS-1		FAT CLAY (CH), black (5YR 2.5/1), stiff, dry to moist, few fine grained sand, no HCl reaction, trace organics and roots, no calcium carbonate nodules observed	
77.0	3.5	4	6	6	●12					SS-2		3.5 ft: dark gray (10YR 4/1) to light gray (10YR 6/1), trace fine grained sand, no HCl reaction on clay, trace calcium carbonate nodules	
74.5	6.0	4	6	8	●14					SS-3		6.0 ft: weak HCl reaction on clay	
72.0	8.5	2	6	8	●14					SS-4		72.0	8.5
69.5	11.0	5	7	9	●16					SS-5		69.5	11.0
67.0	13.5	4	6	7	●13					SS-6		13.5 ft: stiff, black staining	
61.7	18.8	3	6	6	●12					SS-7		18.8 ft: light greenish gray (10Y 7/1) and strong brown (7.5YR 5/8), no HCl reaction on clay	
56.7	23.8	3	6	7	●13					SS-8		23.8 ft: trace fine grained sand, weak HCl reaction, no caliche observed	
51.7	28.8	5	7	12	●19					SS-9		28.8 ft: very stiff, no HCl reaction, black nodules	
46.7	33.8	5	7	10	●17					SS-10		33.8 ft: weak HCl reaction	
41.7	38.8	5	6	10	●16					SS-11		38.8 ft: strong brown (7.5YR 5/6), no HCl reaction	
36.7	43.8	6	7	13	●20					SS-12		43.8 ft: brownish yellow (10YR 6/6) and light greenish gray (10Y 7/1), trace caliche, no HCl reaction on clay	
31.7	48.8	6	7	10	●17					SS-13			
26.7	53.8	5	12	14	●26					SS-14		53.8 ft: light greenish gray (10Y 7/1), 0.2-foot thick layer of caliche	

EXELON COL BORE VICTORIA PHASE III GPJ EXELON COL GDT 10/20/09



SHEET 2 OF 6

BECHTEL NO.: 25352		MACTEC NO.: 6468-07-1777		COUNTY: Victoria, TX		GEOLOGIST: L. Bisson / T. Quigley / D. Haug									
SITE DESCRIPTION: Exelon Texas COL Project - Supplemental Investigation, Including UHS							GROUND WATER (ft)								
BORING NO.: B-3105		DRILL METHOD: Mud Rotary		SAMPLE METHODS: SPT			0 HR.	ND							
GROUND SURFACE ELEV.: 80.5 ft (NAVD88)		NORTHING: 13,412,124		US ft (NAD83)		EASTING: 2,599,612 US ft (NAD83)		24 HR.	ND						
TOTAL DEPTH: 300.3 ft		DRILL MACHINE: CME 550		DRILLER: M. Casteel (MACTEC CLT)			HAMMER (ID): 140 lb. Auto (ME 05)								
DATE STARTED: 2/17/09		COMPLETED: 2/25/09		CASING DEPTH: 20.0 ft			BITS USED: 3 7/8" Drag Bit								
ELEV. (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	LOG	SOIL AND ROCK DESCRIPTION			
		0.5ft	0.5ft	0.5ft	0	20	40	60	80	100	MOI				
24.4					Continued from previous page										
21.7	58.8	17	49	22									FAT CLAY (CH), light gray (2.5Y 7/2), very stiff, moist, few fine grained sand, trace caliche (continued)		
													21.7	58.8	
													21.2	59.3	
16.7	63.8	19	25	26										POORLY GRADED SAND with clay (SP-SC), light gray (10YR 7/2), very dense, wet, fine grained, little fines, weak HCl reaction	
														FAT CLAY (CH), light gray (2.5Y 7/2), hard, moist, few fine grained sand, weak HCl reaction on clay, few caliche	
														63.8 ft: light yellowish brown (2.5Y 6/3), no HCl reaction on clay	
11.7	68.8	11	15	16										68.8 ft: light olive gray (5Y 6/2)	
														71.0 ft: driller notes possible sand layer	
6.7	73.8	9	23	26										POORLY GRADED SAND (SP), light gray (10YR 7/2), dense, wet, fine grained, few fines, 0.1-foot thick caliche layer, weak HCl reaction on caliche, no HCl reaction on sand	
														6.7	73.8
														3.5	77.0
1.7	78.8	7	10	14											SANDY FAT CLAY (CH), light gray (10YR 7/2), very stiff, moist, some fine grained sand, 0.1-foot thick caliche layer, strong HCl reaction on caliche, trace brown staining, no HCl reaction on clay
														-0.5	81.0
															POORLY GRADED SAND (SP), light gray (10YR 7/2), dense, wet, fine grained, few fines, no HCl reaction
-3.3	83.8	18	17	17										-3.6	84.1
															SANDY FAT CLAY (CH), light gray (10YR 7/2), hard, moist, some fine grained sand, caliche, strong HCl reaction on caliche
															88.8 ft: very pale brown (10YR 7/3), no HCl reaction on clay, brown staining, strong HCl reaction on caliche
															93.0 ft: harder drilling
															93.8 ft: weak HCl reaction on clay, mostly caliche, strong HCl reaction on caliche

EXELON COL BORE VICTORIA PHASE III(GPJ) EXELON COL.GDT 10/20/09

EXELON COL BORE VICTORIA PHASE III.GPJ EXELON COL.GDT 10/20/09



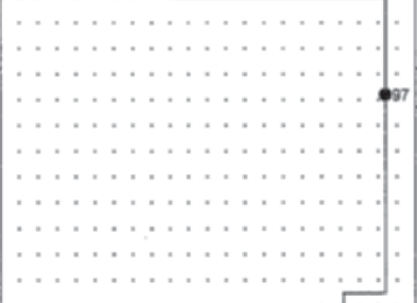
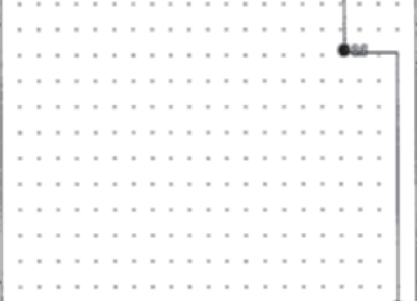
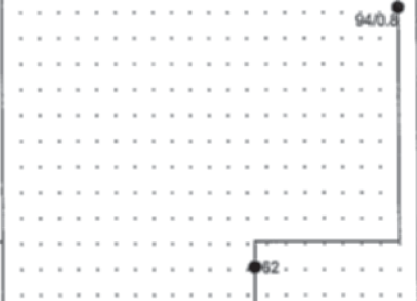
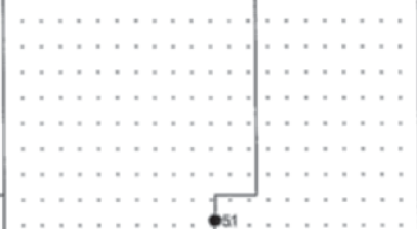
SHEET 4 OF 6

BECHTEL NO.: 25352		MACTEC NO.: 6468-07-1777		COUNTY: Victoria, TX		GEOLOGIST: L. Bisson / T. Quigley / D. Haug						
SITE DESCRIPTION: Exelon Texas COL Project - Supplemental Investigation, Including UHS						GROUND WATER (ft)						
BORING NO.: B-3105		DRILL METHOD: Mud Rotary		SAMPLE METHODS: SPT		0 HR. ND						
GROUND SURFACE ELEV.: 80.5 ft (NAVD88)		NORTHING: 13,412,124 US ft (NAD83)		EASTING: 2,599,612 US ft (NAD83)		24 HR. ND						
TOTAL DEPTH: 300.3 ft		DRILL MACHINE: CME 550		DRILLER: M. Casteel (MACTEC CLT)		HAMMER (ID): 140 lb. Auto (ME 05)						
DATE STARTED: 2/17/09		COMPLETED: 2/25/09		CASING DEPTH: 20.0 ft		BITS USED: 3 7/8" Drag Bit						
ELEV. (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	LOG MOI	SOIL AND ROCK DESCRIPTION
		0.5ft	0.5ft	0.5ft	0	20	40	60	80	100		
-87.8					Continued from previous page							
-88.3	168.8	48	56	54/0.5						SS-30		SILTY SAND (SM), light gray (10YR 7/2), very dense, wet, fine to coarse grained, little fines, strong HCl reaction, trace fine gravel (continued)
												172.0 to 175.0 ft: harder drilling
-98.3	178.8	53	76	50/0.5						SS-31		POORLY GRADED SAND (SP), very pale brown (10YR 7/3), very dense, wet, fine to medium grained, few fines, strong HCl reaction
-108.3	188.8	18	100/0.4							SS-32		188.8 ft: very pale brown (10YR 8/3)
												191.0 to 193.0 ft: harder drilling
-118.3	198.8	18	20	19						SS-33A/B/C		CLAYEY SAND (SC), reddish yellow (7.5YR 7/8), dense, moist, fine to coarse grained, little fines, no HCl reaction
												199.3 to 199.6 ft: harder drilling
-128.3	208.8	18	24	40						SS-34		POORLY GRADED SAND (SP), light gray (10YR 7/2), dense, moist, fine to medium grained, few fines, no HCl reaction on sand, 0.1-foot thick caliche lens, strong HCl reaction on caliche
												SANDY FAT CLAY (CH), pale yellow (2.5Y 7/3), hard, moist, some fine grained sand, no HCl reaction on clay, slicken sides (45 degrees)
-138.3	218.8	14	18	21						SS-35		POORLY GRADED SAND (SP), very pale brown (10YR 8/2), very dense, wet, fine to medium grained, few fines, no HCl reaction
												SANDY FAT CLAY (CH), light gray (5Y 7/2), hard, moist, some fine grained sand, weak HCl reaction on clay, caliche, strong HCl reaction on caliche, brown staining

EXELON COL BORE VICTORIA PHASE III LCPJ EXELON COL GDT 10/20/09



SHEET 5 OF 6

BECHTEL NO.: 25352		MACTEC NO.: 6468-07-1777		COUNTY: Victoria, TX		GEOLOGIST: L. Bisson / T. Quigley / D. Haug						
SITE DESCRIPTION: Exelon Texas COL Project - Supplemental Investigation, Including UHS							GROUND WATER (ft)					
BORING NO.: B-3105		DRILL METHOD: Mud Rotary		SAMPLE METHODS: SPT			0 HR.	ND				
GROUND SURFACE ELEV.: 80.5 ft (NAVD88)		NORTHING: 13,412,124		US ft (NAD83)		EASTING: 2,599,612 US ft (NAD83)		24 HR.	ND			
TOTAL DEPTH: 300.3 ft		DRILL MACHINE: CME 550		DRILLER: M. Casteel (MACTEC CLT)			HAMMER (ID): 140 lb. Auto (ME 05)					
DATE STARTED: 2/17/09		COMPLETED: 2/25/09		CASING DEPTH: 20.0 ft			BITS USED: 3 7/8" Drag Bit					
ELEV. (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	LOG MOI	SOIL AND ROCK DESCRIPTION
		0.5ft	0.5ft	0.5ft	0	20	40	60	80			
-143.9					Continued from previous page							
-148.3	228.8	13	19	23						SS-36		SANDY FAT CLAY (CH), light gray (5Y 7/2), hard, moist, some fine grained sand, weak HCl reaction on clay, caliche, strong HCl reaction on caliche, brown staining (continued)
-158.3	238.8	20	46	51						SS-37		POORLY GRADED SAND (SP), light gray (10YR 7/2), very dense, moist, fine to medium grained, few fines, strong HCl reaction
-168.3	248.8	18	31	55								
-178.3	258.8	29	44	50/0.3						SS-36		CLAYEY SAND (SC), light gray (10YR 7/2), very dense, moist, fine grained, some fines, no HCl reaction on sand, caliche, strong HCl reaction on caliche, brown staining
-188.4	268.9	21	30	32								
-198.3	278.8	17	22	29						SS-40A/B		POORLY GRADED SAND (SP), light gray (10YR 7/2), very dense, moist, fine grained, few fines, no HCl reaction 252.0 to 253.0 ft: hard drilling 254.0 to 256.5 ft: hard drilling
										SS-41		CLAYEY SAND (SC), pale yellow (2.5Y 7/4), very dense, moist, fine grained, little fines, no HCl reaction SANDY FAT CLAY (CH), very pale brown (10YR 8/2), hard, moist, some fine grained sand, no HCl reaction on clay, caliche, strong HCl reaction on caliche, brown staining 273.0 to 274.0 ft: hard drilling

EXELON COL BORE VICTORIA PHASE III QP3 EXELON COL.GDT 10/20/09



SHEET 6 OF 6

BECHTEL NO.: 25352		MACTEC NO.: 6468-07-1777		COUNTY: Victoria, TX		GEOLOGIST: L. Bisson / T. Quigley / D. Haug						
SITE DESCRIPTION: Exelon Texas COL Project - Supplemental Investigation, Including UHS							GROUND WATER (ft)					
BORING NO.: B-3105		DRILL METHOD: Mud Rotary		SAMPLE METHODS: SPT		0 HR. ND						
GROUND SURFACE ELEV.: 80.5 ft (NAVD88)		NORTHING: 13,412,124		US ft (NAD83)		EASTING: 2,599,612 US ft (NAD83)						
TOTAL DEPTH: 300.3 ft		DRILL MACHINE: CME 550		DRILLER: M. Casteel (MACTEC CLT)		HAMMER (ID): 140 lb. Auto (ME 05)						
DATE STARTED: 2/17/09		COMPLETED: 2/25/09		CASING DEPTH: 20.0 ft		BITS USED: 3 7/8" Drag Bit						
ELEV. (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	LOG MOI	SOIL AND ROCK DESCRIPTION
		0.5ft	0.5ft	0.5ft	0	20	40	60	80			
-200.0					Continued from previous page							
-208.3	288.8									SS-42		FAT CLAY (CH), very pale brown (10YR 8/2), yellow (10YR 7/8), hard, moist, few fine grained sand, weak HCl reaction on clay, trace calcium carbonate nodules, trace black staining (continued) 288.8 ft: strong HCl reaction
		14	21	27								
-218.3	298.8									SS-43		FAT CLAY with sand (CH), very pale brown (10YR 8/2), yellow (10YR 7/8), hard, moist, few fine grained sand, strong HCl reaction on calcium carbonate nodules, trace calcium carbonate nodules, slickensides Boring Terminated at Elevation -219.8 ft
		16	23	28								

EXELON COL BORE VICTORIA PHASE III.GPJ EXELON COL.GDT 10/20/09