

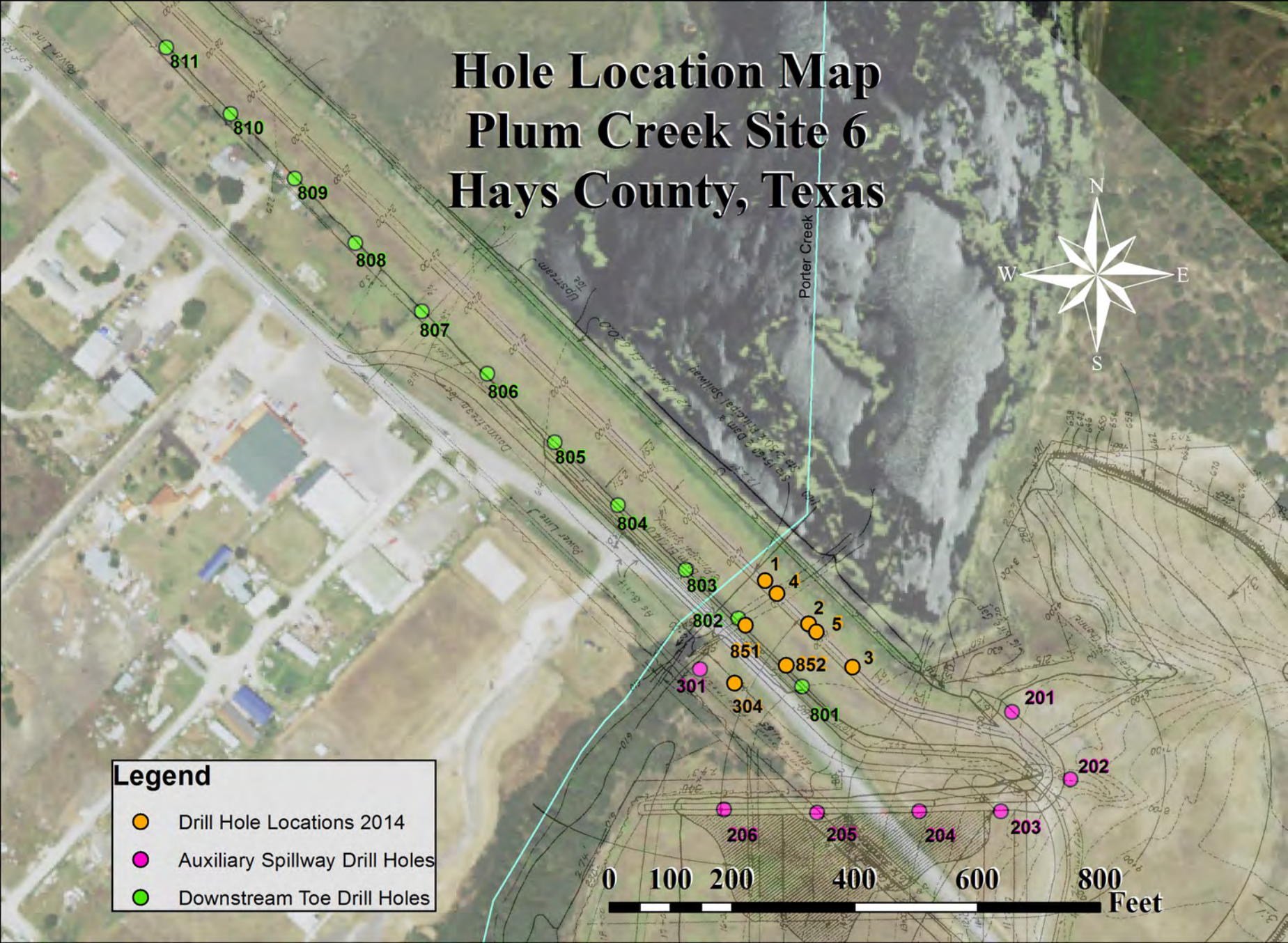
Hole Location Map Plum Creek Site 6 Hays County, Texas



Legend

- Drill Hole Locations 2014
- Auxiliary Spillway Drill Holes
- Downstream Toe Drill Holes

0 100 200 400 600 800 Feet



LOG OF TEST HOLES

WATERSHED Plum Creek		SUB-WATERSHED		SITE NO. 6	
LOCATION Centerline Dam		DATE 6/3/14	LAT/LONG WGS 84 -97.822732 30.002160		STATE Texas
LOGGED BY Moffatt			PROJECT : WP-07 _____ WP-08 _____ FP-03 _____ P.L.-46 _____		
DRILLING EQUIPMENT Mobile B-57			LOCTION OF HOLES Approx 20 feet left Principal Spillway		

HOLE NO.	STA. & SURFACE ELEVATION	HOLE DEPTH		DESCRIPTION OF MATERIALS	N	U S C S	TYPE BIT USED	SAMPLES						
		FROM	TO					NO	TYPE	FROM	TO	REC %	DISP FT	AMT
		FT	FT							FT	FT			
1	642.26	0	0.5	Topsoil, Clay, silty, dry to slightly moist, organics, highly plastic, stiff, dark		CH	FA	.1	5" P	15	17	60		
	~15+40			brown to black				.2	5" P	45	47	100		
	CL Dam	0.5	5	Clay, (processed claystone), silty, stiff, slightly moist to moist, highly plastic,		CH		.3	5" P	55	56	refuse		
				light brown, fill										
		5	10	Clay, (processed claystone with some iron stain), silty, slightly moist to		CH								
				moist, stiff, highly plastic, light brown, fill										
		10	20	Clay, (processed claystone), silty, stiff, slightly moist to moist, highly plastic,		CH								
				light brown, fill										
		20	35	Clay, silty, stiff, slightly moist to moist, highly plastic, light brown to light gray		CH								
		35	45	Clay, silty, stiff, moist, highly plastic, dark gray, fill		CH								
		45	52	Claystone, blocky, few gypsum crystals, soft rock, breaks down to highly		CS								
				plastic clay, water slowly entering hole through fractures, slightly weathered										
				to weathered, dark grayish brown										
		52	56	Claystone, blocky, gypsum, soft rock, breaks down to highly plastic clay,		CS								
				slightly weathered to non-weathered, dark grayish brown to black										

DATE: 6/5/14 TIME: 7:34 WATER LEVEL: 35.0 CAVE IN: 42.0

SHEET 1 OF 1 SHEETS

LOG OF TEST HOLES

WATERSHED Plum Creek		SUB-WATERSHED		SITE NO. 6	
LOCATION Centerline Dam		DATE 6/3/14	LAT/LONG WGS 84 -97.822511 30.001965		STATE Texas
LOGGED BY Moffatt			PROJECT : WP-07 _____ WP-08 _____ FP-03 _____ P.L.-46 _____		
DRILLING EQUIPMENT Mobile B-57			LOCTION OF HOLES Approx 120 feet left Principal Spillway		

HOLE NO.	STA. & SURFACE ELEVATION	HOLE DEPTH		DESCRIPTION OF MATERIALS	N	U S C S	TYPE BIT USED	SAMPLES						
		FROM	TO					NO	TYPE	FROM	TO	REC %	DISP FT	AMT
		FT	FT							FT	FT			
2	642.5	0	0.5	Topsoil, Clay, silty, dry to slightly moist, organics, highly plastic, stiff, dark		CH	FA	.1	5" P	25	27	100		
	~14+40			brown to black				.2	5" P	35	37	100		
	CL Dam	0.5	13	Clay, (processed claystone), silty, stiff, slightly moist to moist, highly plastic,		CH		.3	5" P	45	46.5	refuse		
				light brown, fill				.4	5" P	55	55.8			
		13	25	Clay, (processed claystone with some iron stain), silty, slightly moist to		CH								
				moist, stiff, highly plastic, light brown, fill										
		25	43	Clay, silty, stiff, slightly moist to moist, highly plastic, black, fill		CH								
		43	53	Claystone, blocky, few gypsum crystals, soft rock, breaks down to highly		CS								
				lastic clay, water slowly entering hole through fractures, slightly weathered										
				to weathered, dark grayish brown										
		53	55.8	Claystone, blocky, gypsum, soft rock, breaks down to highly plastic clay,		CS								
				lightly weathered to non-weathered, dark grayish brown to black, push 55 -										
				55.8, taco tube, refusal										

DATE: 6/5/14 TIME: 7:46 WATER LEVEL: 31.8 CAVE IN: 35.8

SHEET 1 OF 1 SHEETS

LOG OF TEST HOLES

WATERSHED Plum Creek		SUB-WATERSHED		SITE NO. 6	
LOCATION Centerline Dam		DATE 6/4/14	LAT/LONG WGS 84 -97.822286 30.001769		STATE Texas
LOGGED BY Moffatt			PROJECT : WP-07 _____ WP-08 _____ FP-03 _____ P.L.-46 _____		
DRILLING EQUIPMENT Mobile B-57			LOCTION OF HOLES Approx 120 feet left Principal Spillway		

HOLE NO.	STA. & SURFACE ELEVATION	HOLE DEPTH		DESCRIPTION OF MATERIALS	N	U S C S	TYPE BIT USED	SAMPLES						
		FROM	TO					NO	TYPE	FROM	TO	REC %	DISP FT	AMT
		FT	FT							FT	FT			
3	643.04	0	0.5	Clay, silty, dry to slightly moist, organics 0-0.5', highly plastic, stiff, slight		CH	FA	.1	5" P	20	23	100		
	~13+40			medium grained gravel, slightly sandy dark brown to black				.2	5" P	40	42	80		
	CL Dam	0.5	5	Clay (processed claystone), slightly moist, stiff, highly plastic, light brown		CH		.3	Small	60	60.1			
		5	10	As above with pieces of slightly processed claystone, fill		CH								
		10	32	Clay, silty, slightly moist to moist, stiff, highly plastic, light brown, fill		CH								
		32	40	Clay, silty, stiff, slightly moist to moist, highly plastic, black, fill		CH								
		40	56	Claystone, blocky, slight gypsum, soft rock, breaks down to highly plastic		CS								
				clay, weathered to slightly weathered, dark grayish brown										
		56	60.1	Claystone, soft rock, breaks down to highly plastic clay, fractured, blocky,		CS								
				lightly weathered to non-weathered, dark grayish brown to black, push 60 -										
				62, refusal at 60.1										

DATE: 6/5/14 TIME: 7:57 WATER LEVEL: 51.9 CAVE IN: 56.4

SHEET 1 OF 1 SHEETS

LOG OF TEST HOLES

WATERSHED Plum Creek		SUB-WATERSHED		SITE NO. 6
LOCATION CL Dam	DATE 09/10/2014	COUNTY Hays		STATE Texas
LOGGED BY Moffatt		PROJECT : WP-07 _____ WP-08 _____ FP-03 _____ P.L.-46 _____		
DRILLING EQUIPMENT Mobile B-57		LOCTION OF HOLES Approximately 170 feet left PS Pipe		

HOLE NO.	STA. & SURFACE ELEVATION	HOLE DEPTH		DESCRIPTION OF MATERIALS	N	U S C S	TYPE BIT USED	SAMPLES						
		FROM	TO					NO	TYPE	FROM	TO	REC %	DISP FT	AMT
		FT	FT							FT	FT			
4		0	23	Clay (processed claystone), silty, dry to slightly moist, stiff, highly plastic,		CH	HS	.1	3"Push	20'	21.5'	60		
				pieces of unprocessed claystone in CH matrix, light brown, increase in				.2	3"Push	25'	27.5'	100		
				moisture below 10', slightly moist to moist below 15', Push 22' -22.5',				.3	3"Push	30'	32.5'	100		
				recovered 1.5 feet, sample falling out of tube at surface, (fill material)				.4	3"Push	35'	37.5'	100		
		23	33	Clay (processed alluvium, zone 1 material), silty, moist, stiff, highly plastic,		CH	HS							
				light brown mottled light gray (fill material)										
		33	37.5	Clay, silty, stiff, moist to very moist, highly plastic, black, Core Trench		CH	HS							
				Material (fill)										
				Plug hole 9/12/2014										

DATE: 9/12/2014 TIME: 7:31 WATER LEVEL: N/A CAVE IN: 34.7

SHEET 1 OF 1 SHEETS

LOG OF TEST HOLES

WATERSHED Plum Creek		SUB-WATERSHED		SITE NO. 6
LOCATION CL Dam	DATE 09/10/2014	COUNTY Hays		STATE Texas
LOGGED BY Moffatt		PROJECT : WP-07 _____ WP-08 _____ FP-03 _____ P.L.-46 _____		
DRILLING EQUIPMENT Mobile B-57		LOCTION OF HOLES Approximately 170 feet left PS Pipe		

HOLE NO.	STA. & SURFACE ELEVATION	HOLE DEPTH		DESCRIPTION OF MATERIALS	N	U S C S	TYPE BIT USED	SAMPLES						
		FROM	TO					NO	TYPE	FROM	TO	REC %	DISP FT	AMT
		FT	FT							FT	FT			
5		0	26	Clay (processed claystone), silty, dry to slightly moist, stiff, highly plastic,		CH	HS	.1	3"Push	20'	22.5'	100		
				pieces of unprocessed claystone in CH matrix, light brown, black clay streak				.2	3"Push	25'	27.5'	100		
				8' - 10', black CH streak 16' - 17', slight gypsum at 22', increase in moisture		CH	HS	.3	3"Push	30'	32.5'	100		
				below 15' (fill material)		CH	HS	.4	3"Push	35'	36.5'	60		
		26	31	Clay (processed alluvium), silty, moist, stiff, highly plastic, light brown										
				mottled gray (fill material)										
		31	37.5	Clay, silty, stiff, moist , highly plastic, black, Core Trench Material (fill)		CH	HS							
				Push 35' -37.5', recovered 1.5 feet, part of sample fell out of tube.										
				Plug hole 9/12/2014										

DATE: 9/12/2014 TIME: 8:03 WATER LEVEL: N/A CAVE IN: 34.9

SHEET 1 OF 1 SHEETS

LOG OF TEST HOLES

WATERSHED Plum Creek		SUB-WATERSHED		SITE NO. 6	
LOCATION Stilling Basin		DATE 6/4/14	LAT/LONG WGS 84 -97.822896 30.001702		STATE Texas
LOGGED BY Moffatt			PROJECT : WP-07 _____ WP-08 _____ FP-03 _____ P.L.-46 _____		
DRILLING EQUIPMENT Mobile B-57			LOCTION OF HOLES Approx 100' left outfall Principal Spillway pipe		

HOLE NO.	STA. & SURFACE ELEVATION	HOLE DEPTH		DESCRIPTION OF MATERIALS	N	U S C S	TYPE BIT USED	SAMPLES						
		FROM	TO					NO	TYPE	FROM	TO	REC %	DISP FT	AMT
		FT	FT							FT	FT			
304	612.58	0	2	Clay, silty, slightly moist, stiff, highly plastic slight fine grained gravel (clay		CH	FA	.1	3" P	0	2	100		
	~14+55			balls), slight lime streaks, black, fill										
	CL Dam	2	2.5	Gravel (concrete and debris), dense, slightly moist, slight clay white gravel		GM	to GC							
	150 FT DS			dark brown to black clay, fill										
		2.5	9	Clay, silty, slightly moist to moist, stiff, highly plastic, coarse grain sand fine		CH		.2	5" P	5	7	100		
				grained gravel (carbonaceous concretions), gravel streak at 5 ft, gray to										
				grayish brown										
		9	23	Claystone, (contact with alluvium in tube ?), highly weathered, soft rock,		CS		.3	5" P	10	12	80		
				breaks down to highly plastic clay, thin bedded to laminated, slightly moist										
				to moist, light brown with light gray										
		23	26.4	Claystone, silty, thin bedded to laminated, slightly weathered to non-		CS		.4	5" P	25	27	65		
				weathered, iron staining along bedding planes, dark gray, breaks down to										
				highly plastic clay, Push 25'-27', refusal at 26.4'										

DATE: 6/5/2014 TIME: 8:12 WATER LEVEL: 25.8 CAVE IN: 25.4

SHEET 1 OF 1 SHEETS

LOG OF TEST HOLES

WATERSHED Plum Creek		SUB-WATERSHED		SITE NO. 6	
LOCATION Downstream Toe of Dam		DATE 09/10/2014		COUNTY Hays	
LOGGED BY Moffatt		PROJECT : WP-07 _____ WP-08 _____ FP-03 _____ P.L.-46 _____			
DRILLING EQUIPMENT Mobile B-57		LOCTION OF HOLES Approximately 50 feet left PS Pipe			

HOLE NO.	STA. & SURFACE ELEVATION	HOLE DEPTH		DESCRIPTION OF MATERIALS	N	U S C S	TYPE BIT USED	SAMPLES						
		FROM	TO					NO	TYPE	FROM	TO	REC %	DISP FT	AMT
		FT	FT							FT	FT			
851		0	1	Clay, silty, dry to slightly moist, stiff, highly plastic, some roots, black topsoil		CH	HS	.1	3"Push	15'	17.5'	100		
		1	18	Clay, silty, slightly moist, stiff, highly plastic black to dark gray, increase in		CH	HS	.2	3"Push	20'	22.5'	100		
				moisture below 6', few coarse grains of sand below 7' becoming light gray				.3	3"Push	25'	27'	100		
		18	22	Clay, silty, moist highly plastic, stiff, light brown		CH	HS	.4	3"Push	30'	31.5'	100		
		22	25	Claystone, highly weathered, soft rock, thin bedded to laminated, fractured		CS	HS							
				light brown to light gray. Push 25' - 27.5' Refusal at 27' water at base of										
				sample, light gray at 27'										
		25	31.5	Claystone, silty, slight to non-weathered, soft to moderately soft rock, thin		CS	HS							
				bedded to laminated with silt, breaks down to highly plastic clay, gray. Push										
				30' - 32', Refusal at 31.5'										
				Plugged hole 09/12/2014										

DATE: 09/12/2014 TIME: 8:23 WATER LEVEL: 27.7' CAVE IN: 29.3

SHEET 1 OF 1 SHEETS

LOG OF TEST HOLES

WATERSHED Plum Creek		SUB-WATERSHED		SITE NO. 6
LOCATION Downstream Toe of Dam	DATE 09/11/2014	COUNTY Hays		STATE Texas
LOGGED BY Moffatt		PROJECT : WP-07 _____ WP-08 _____ FP-03 _____ P.L.-46 _____		
DRILLING EQUIPMENT Mobile B-57		LOCTION OF HOLES Approximately 140 feet left PS Pipe		

HOLE NO.	STA. & SURFACE ELEVATION	HOLE DEPTH		DESCRIPTION OF MATERIALS	N	U S C S	TYPE BIT USED	SAMPLES						
		FROM	TO					NO	TYPE	FROM	TO	REC %	DISP FT	AMT
		FT	FT							FT	FT			
852		0	1	Clay, silty, dry to slightly moist, stiff, highly plastic, some roots, black topsoil		CH	HS	.1	3"Push	15'	17.5'	100		
		1	13	Clay, silty, slightly moist, stiff, highly plastic black to dark gray, increase in		CH	HS	.2	3"Push	20'	22.5'	100		
				moisture below 7', becoming lighter in color with depth gray										
		13	18	Clay, silty, moist, highly plastic, slight coarse grain sand,stiff, shiny, light		CH	HS							
				brown mottled light gray										
		18	21	Claystone, weathered, silty, soft rock, thin bedded to laminated, moist		CS	HS							
				light brown mottled light gray with orange iron stain										
		21	25	Claystone, silty, slight to non-weathered, soft to moderately soft rock, moist,		CS	HS							
				gray to dark gray. Push 20' - 22.5' almost refusal @ 22.5'										
				Plugged hole 09/12/2014										

DATE: 09/12/2014 TIME: 8:19 WATER LEVEL: 24.2 CAVE IN: 24.9

SHEET 1 OF 1 SHEETS

SITE : Plum Creek Site 6

PROJECT
TYPE: Dam Rehab

PROGRAM (Source of Funds):

CONTACT
PERSON: Bryan Moffatt, Geologist

PHONE/ FAX: 817.233.6267

Index Tests = gradation, water content, LL, PI, Crumb, Double Hydrometer, Gs

Lab Sample No.	Field Sample No.	Description or Location	Depth (ft)	Sample Size/Type	Field Crumb	Tests Requested								Other Tests or Other Notes
						Index	DUV	Col-lapse	Cor-sol.	Shear	Shrink Swell	Pinhole	Salt	
	4.1	CL Dam ~50' Left of PS Pipe	20'-21.5'	3" Push	NR	X					X			Fill Material, Push 20 - 22.5, lost, bottom 1' of sample, fell out of tube
	4.2	CL Dam ~50' Left of PS Pipe	25'-27.5'	3" Push	NR	X					X			Fill Material
	4.3	CL Dam ~50' Left of PS Pipe	30'-32.5'	3" Push	NR	X					X			Fill Material
	4.4	CL Dam ~50' Left of PS Pipe	35'-37.5'	3" Push	NR	X					X			Fill Material
	5.1	CL Dam ~170' Left of PS Pipe	20'-22.5'	3" Push	NR	X					X			Fill Material
	5.2	CL Dam ~170' Left of PS Pipe	25'-27.5'	3" Push	NR	X					X			Fill Material
	5.3	CL Dam ~170' Left of PS Pipe	30'-32.5'	3" Push	NR	X					X			Fill Material
	5.4	CL Dam ~170' Left of PS Pipe	35'-37.5'	3" Push	NR	X					X			Fill Material, Push 30 - 37.5, lost, bottom 1' of sample, fell out of tube

PLUM CREEK 6
HAMS CO., TEXAS

4.1

20-21.5

CL DAM 250' LEFT PS

PIPE PASH 20-27.5 REELS



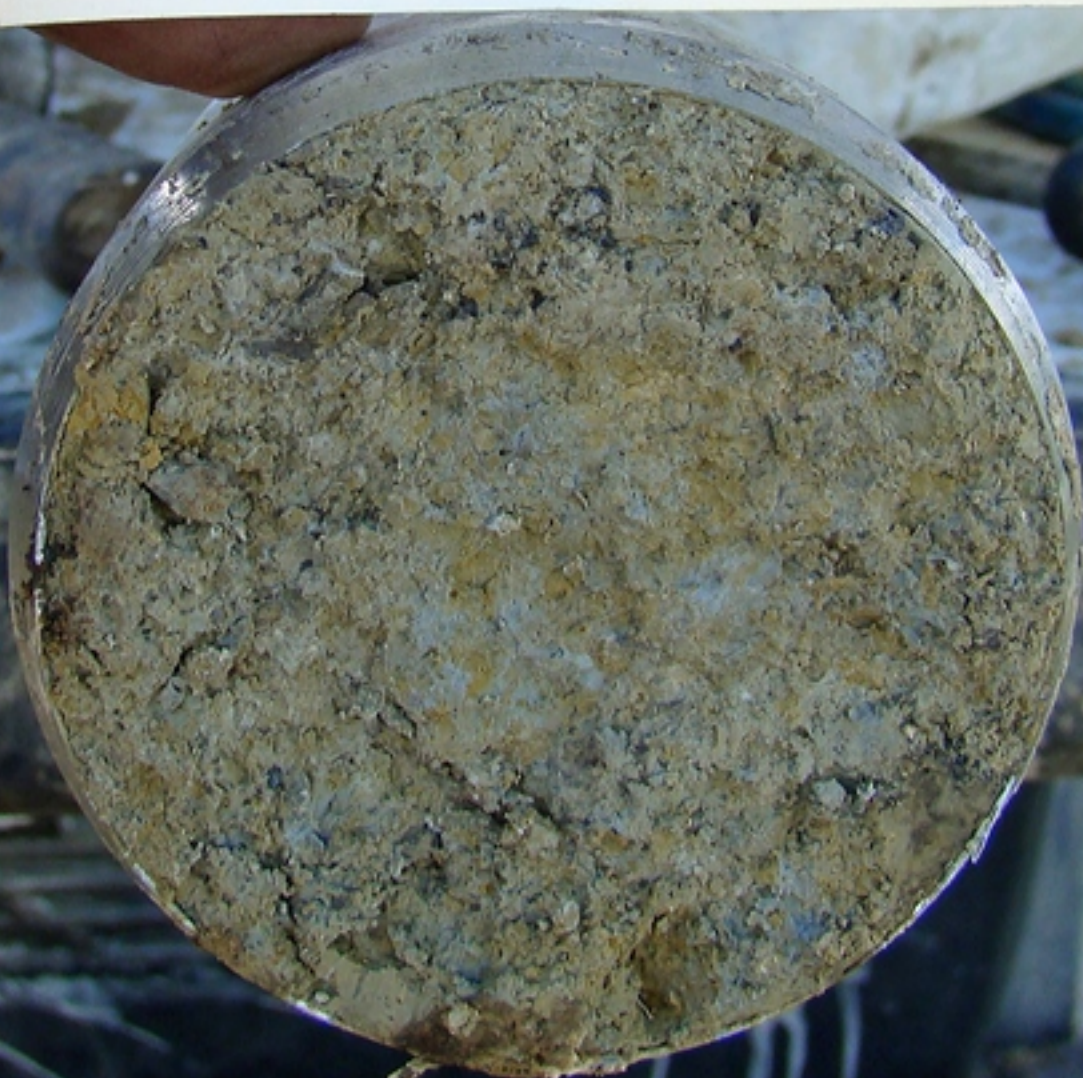
PLUM CREEK 6

HAMS COUNTY, TEXAS

4.2

25-27.5

CL DAM & 50' LEFT PS
PIPE



PLUM CREEK 6

HAYS CO., TEXAS

4.3

30-32.5

CL DAM \approx 50' LEFT PS
PIPE



PLUM CREEK 6

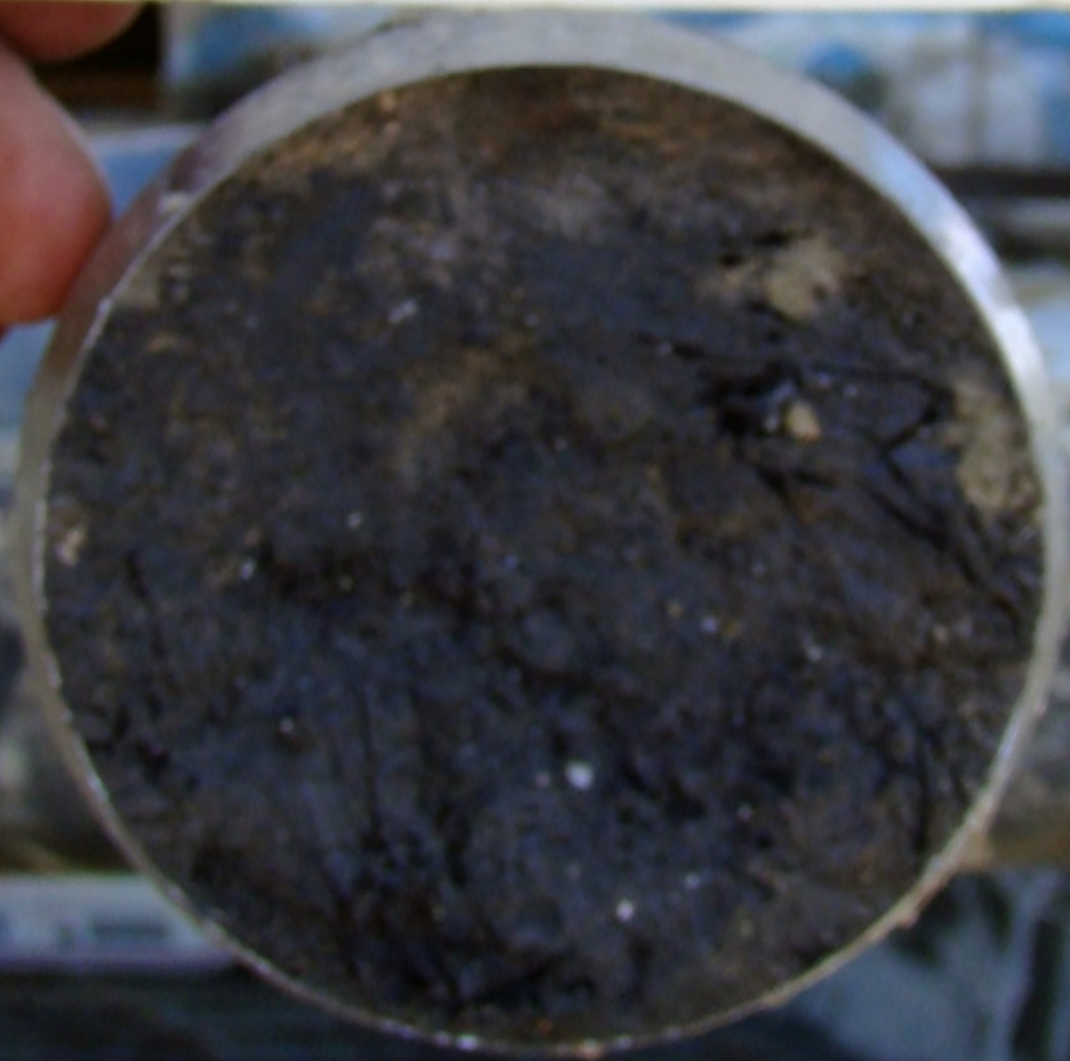
HAYS CO., TEXAS

4.4

35'-37.5'

CL OPEN @ 50' LEFT PS

PEPP (CORE TRUCK PRESENT)



PLUM CREEK 6
HAYS COUNTY, TEXAS
S.1

20-22.5
CL DAM \approx 170' LEFT PS
PIPE



PLUM CREEK 6
HAYS COUNTY, TEXAS
5.1

20-22.5

CL DAM \approx 170' LEFT PS
PIPE



PLUM CREEK 6
HAUS COUNTY, TX

5.2

25'-27.5

CL diam \approx 170' LEFT PS
PIPE



PLUM CREEK 6
HAMS COUNTY, TX

5.3

30-32.5

CL DAM \approx 170' LEFT PS
PIPE



Flum creek 6

Haus canyon, TEXAS

5.4

35-36.5

CL DAM \approx 170' LEFT PS PIPE

PUSIA 35-37.5 CORST BOTTOM 1 FT



PLUM CREEK 6
HAYS COUNTY, TEXAS
851.1

15'-17'

DS TOE \approx 120' LEFT
PS PIPE



PLUM CREEK 6
HAYS COUNTY, TEXAS

851.2

20-22.5

DS TOE \approx 120' LEFT
PS PIPE



PLUM CREEK 6
HAMS COUNTY, TEXAS

851.3

25'-27'

DS TOE \approx 120' LEFT PS PIPE

RASH 25-27.5 REFUSAL
27'



PLUM CREEK 6
HAYS COUNTY, TEXAS

881.4

30-31.5

DS TOE \approx 120' LEFT PS

PIPE PUSH 30'-32'

REFUSAL @ 31.5'



PLUM CREEK 6
HAYS COUNTY, TEXAS

852.1

15'-17.5'

OS TOB \approx 140' LBPT OR
PS PRPB



PLUM CREEK 6
HAYS COUNTY, TEXAS

252.2

20-22.5

DS TOE ~ 140' LEFT PS PIPE
WEATHERED CLAYSTONE /
SL/WEA. CLAYSTONE CONTACT AND
TUBE



INTEC

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