



6899 Pecos Street, Unit C
Denver, Colorado 80221

CLIENT: PDC Energy Inc.

LOGGED BY: Alexander Hamilton

PROJECT MANAGER: Brock Nelson

DRILLING CONTRACTOR: Tasman Geosciences

DRILLING EQUIPMENT: Push Probe

DRILL BIT SIZE (INCHES): 2.375"

DATE STARTED - COMPLETED: 1/23/2019

TOTAL WELL DEPTH (FT. BGS): 11.5

DEPTH TO WATER (FT. BGS): 2.5

Mark 11, 12, 14-35 Tank Battery

BORING / WELL ID: BH01

LOCATION: Evans, CO

NORTHING (CO STATE PLANE): 4457179.7

EASTING (CO STATE PLANE): 530933.4

CASING ELEVATION (FT. AMSL): 4743.31

GROUND ELEVATION (FT. AMSL): 4743.61

Depth (feet)	Sampler Type	SPT (Blows)	% Rec.	Lithologic Description	USCS	PID (ppm)		Lab	Well Construction	Depth (feet)
						100	1000			
0				Brown, sandy/silty clay, rich in organics, roots, no staining or odor, dry	CL				Cement Collar	0
				Brown, sand, moist, loose, low density, medium grained, well sorted	SP				Hydrated Bentonite Crumbles	
				Same as above, saturated	SP					
				No Recovery						
				Brown, sand, saturated, loose, low density, medium grained, well sorted	SP					
5				Gray, clay, moist, medium density, medium plasticity, some calcite staining, no odor	CL				10-20 Silica Sand	5
				No Recovery						
				Gray, clay, moist, medium density, medium plasticity, some calcite staining, no odor	CL					
				Brown, sandy clay, wet, low density, non plastic	SC					
10				Tan, moist sand, high density, poorly graded, fine grained	SP					10

Drilling / Sample Method:

- Solid Stem Auger
- Macro Liner
- Push Probe
- CME Continuous Sample Tube

Laboratory Sample Types:

- Geotechnical Lab
- Analytical Chemistry Lab
- Geotechnical & Analytical Chemistry Lab



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DRILL BIT SIZE (INCHES): 2.375"

DATE STARTED - COMPLETED: 1/23/2019

TOTAL WELL DEPTH (FT. BGS): 12

DEPTH TO WATER (FT. BGS): 4

Mark 11, 12, 14-35 Tank Battery

BORING / WELL ID: BH02

LOCATION: Evans, CO

NORTHING (CO STATE PLANE): 4457192.8

EASTING (CO STATE PLANE): 530947.8

CASING ELEVATION (FT. AMSL): 4743.93

GROUND ELEVATION (FT. AMSL): 4744.15

Depth (feet)	Sampler Type	SPT (Blows)	% Rec.	Lithologic Description	USCS	PID (ppm)		Lab	Well Construction	Depth (feet)
						100	1000			
0				Brown, sand and clay, lot of plant roots and organics, no staining or odor	SC				Cement Collar Hydrated Bentonite Crumbles	0
				Brown, sand, damp, medium density, fine to coarse grain, poorly sorted, no staining or odor	SW				1" Sch. 40 PVC, 0.010 Screen	
				No Recovery						
				Brown, sand, saturated, low density, fine to coarse grain, poorly sorted, no staining or odor	SW				1" Sch. 40 PVC, 0.010 Screen	
5				Same as above, dark brown, medium density						
				No Recovery						
				Dark brown, sand, saturated, medium density, fine to coarse grain, poorly sorted, no staining or odor	SW				10-20 Silica Sand	
				Tan/gray clay, wet, low density, low plasticity, no staining or odor	CL					

Drilling / Sample Method:

- Solid Stem Auger
- Macro Liner
- Push Probe
- CME Continuous Sample Tube

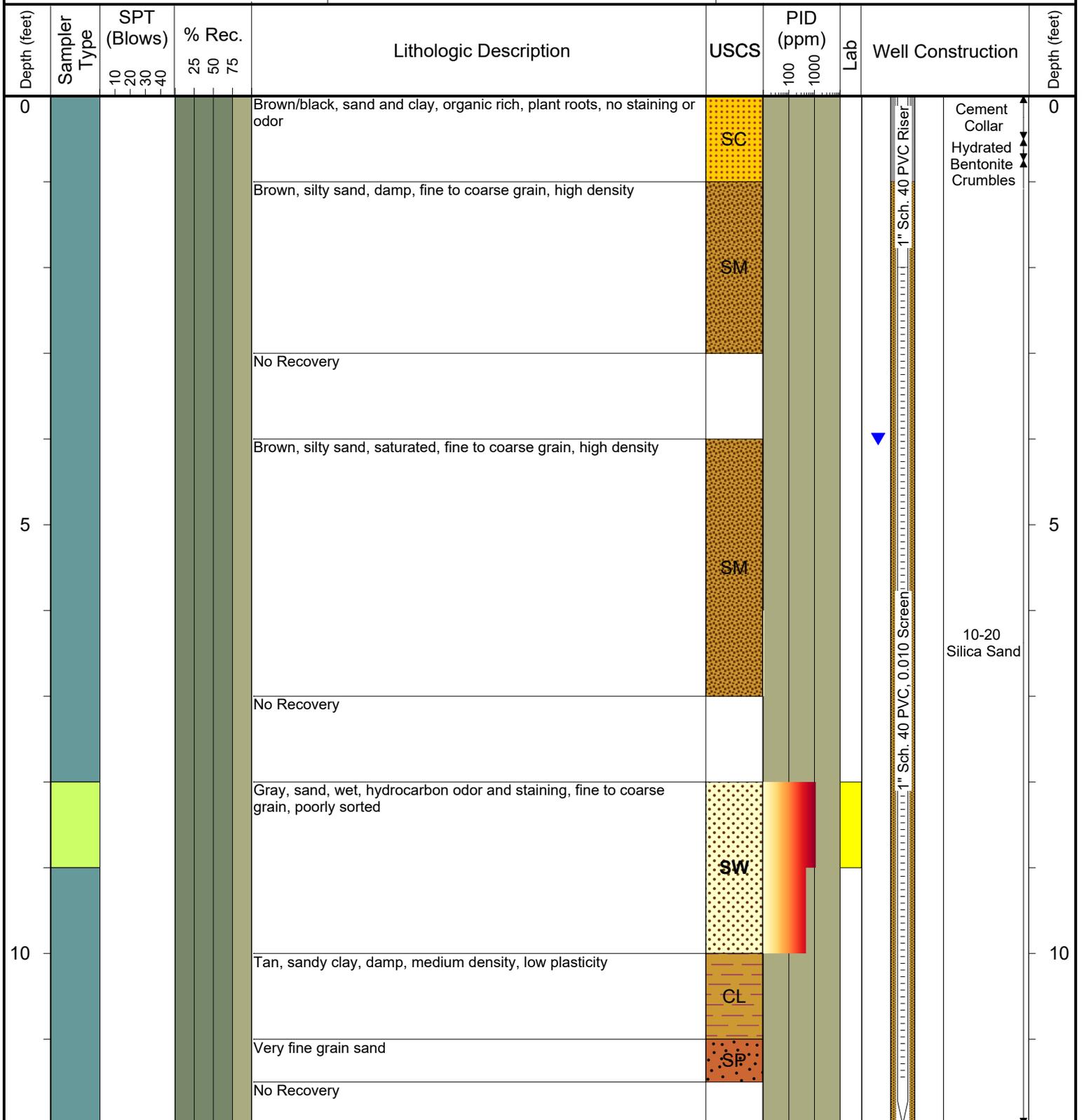
Laboratory Sample Types:

- Geotechnical Lab
- Analytical Chemistry Lab
- Geotechnical & Analytical Chemistry Lab



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CLIENT: PDC Energy Inc.	Mark 11, 12, 14-35 Tank Battery
LOGGED BY: Alexander Hamilton	
PROJECT MANAGER: Brock Nelson	BORING / WELL ID: BH03
DRILLING CONTRACTOR: Tasman Geosciences	
DRILLING EQUIPMENT: Push Probe	LOCATION: Evans, CO
DRILL BIT SIZE (INCHES): 2.375"	NORTHING (CO STATE PLANE): 4457195.8
DATE STARTED - COMPLETED: 1/23/2019	EASTING (CO STATE PLANE): 530930.1
TOTAL WELL DEPTH (FT. BGS): 12	CASING ELEVATION (FT. AMSL): 4743.01
DEPTH TO WATER (FT. BGS): 4	GROUND ELEVATION (FT. AMSL): 4743.15



Drilling / Sample Method:

- Solid Stem Auger
- Macro Liner
- Push Probe
- CME Continuous Sample Tube

Laboratory Sample Types:

- Geotechnical Lab
- Analytical Chemistry Lab
- Geotechnical & Analytical Chemistry Lab



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CLIENT: PDC Energy Inc.

LOGGED BY: Alexander Hamilton

PROJECT MANAGER: Brock Nelson

DRILLING CONTRACTOR: Tasman Geosciences

DRILLING EQUIPMENT: Push Probe

DRILL BIT SIZE (INCHES): 2.375"

DATE STARTED - COMPLETED: 1/23/2019

TOTAL WELL DEPTH (FT. BGS): 12

DEPTH TO WATER (FT. BGS): 2.5

Mark 11, 12, 14-35 Tank Battery

BORING / WELL ID: BH04

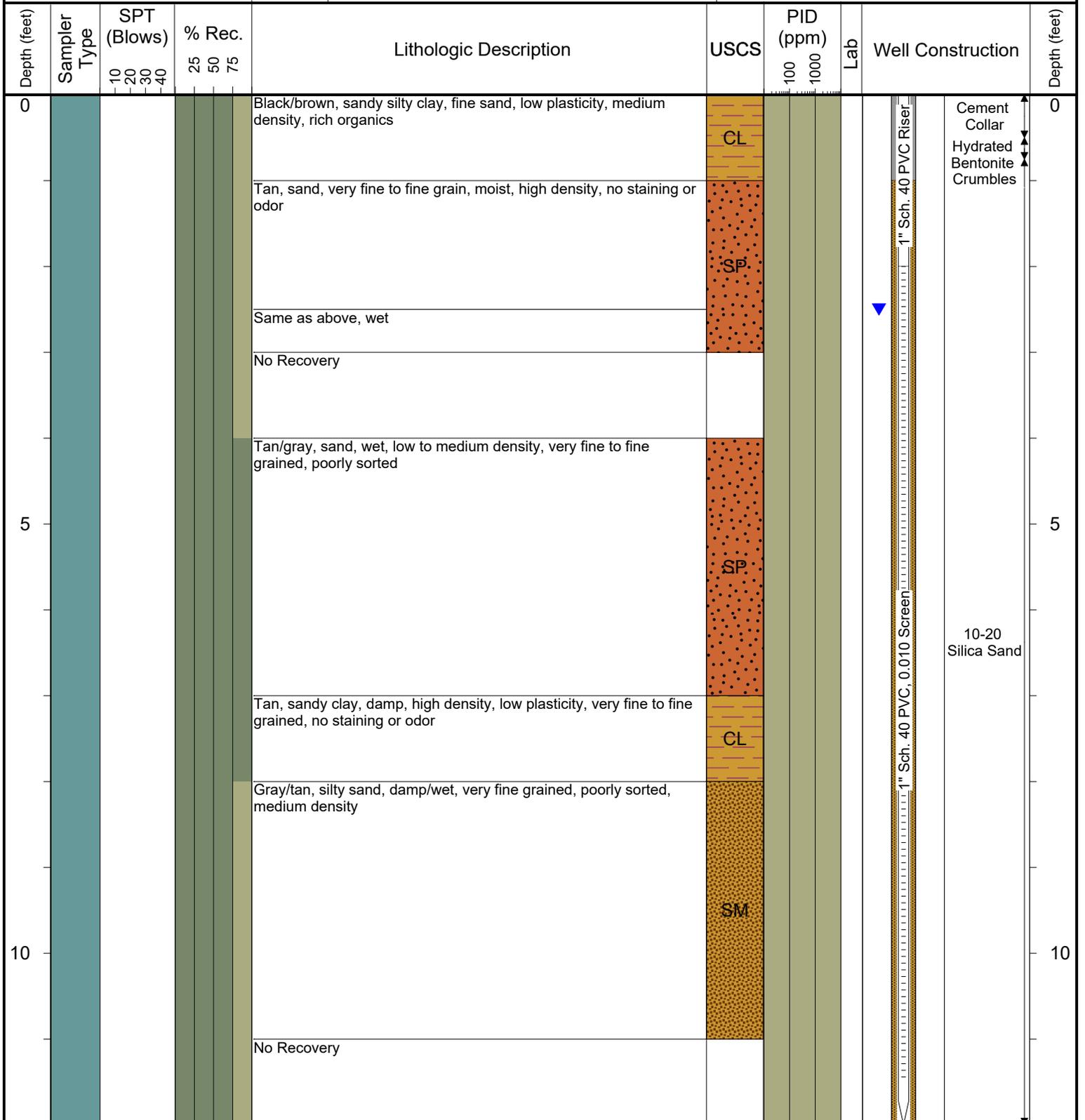
LOCATION: Evans, CO

NORTHING (CO STATE PLANE): 4457198.5

EASTING (CO STATE PLANE): 530920.3

CASING ELEVATION (FT. AMSL): 4742.63

GROUND ELEVATION (FT. AMSL): 4742.77



Drilling / Sample Method:

- Solid Stem Auger
- Macro Liner
- Push Probe
- CME Continuous Sample Tube

Laboratory Sample Types:

- Geotechnical Lab
- Analytical Chemistry Lab
- Geotechnical & Analytical Chemistry Lab



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DRILLING CONTRACTOR: Tasman Geosciences

DRILLING EQUIPMENT: Push Probe

DRILL BIT SIZE (INCHES): 2.375"

DATE STARTED - COMPLETED: 1/23/2019

TOTAL WELL DEPTH (FT. BGS): 12

DEPTH TO WATER (FT. BGS): 2.5

Mark 11, 12, 14-35 Tank Battery

BORING / WELL ID: BH05

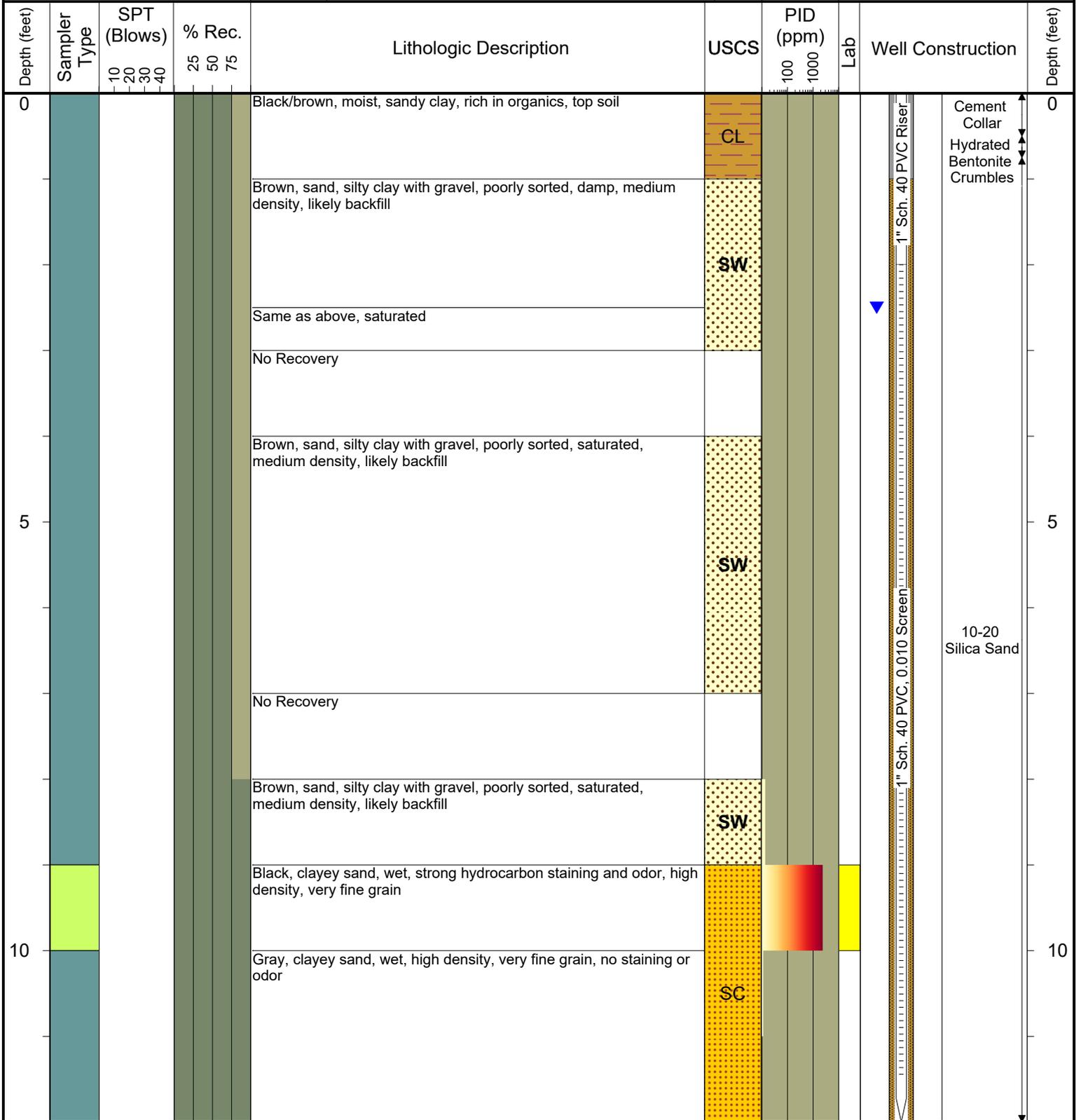
LOCATION: Evans, CO

NORTHING (CO STATE PLANE): 4457201.2

EASTING (CO STATE PLANE): 530905.4

CASING ELEVATION (FT. AMSL): 4742.59

GROUND ELEVATION (FT. AMSL): 4742.69



Drilling / Sample Method:

- Solid Stem Auger
- Macro Liner
- CME Continuous Sample Tube
- Push Probe

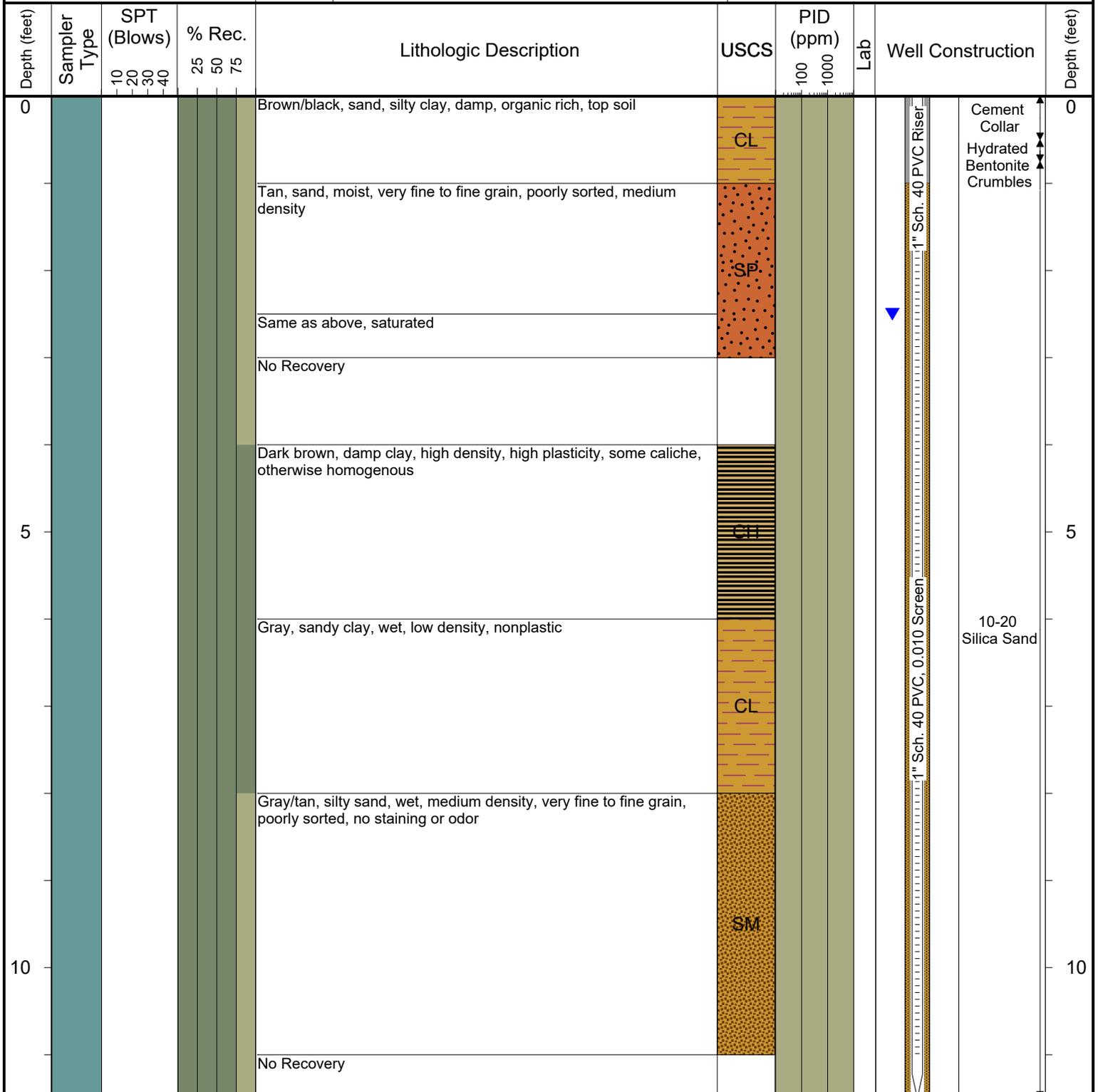
Laboratory Sample Types:

- Geotechnical Lab
- Analytical Chemistry Lab
- Geotechnical & Analytical Chemistry Lab



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CLIENT: PDC Energy Inc.	Mark 11, 12, 14-35 Tank Battery
LOGGED BY: Alexander Hamilton	
PROJECT MANAGER: Brock Nelson	BORING / WELL ID: BH06
DRILLING CONTRACTOR: Tasman Geosciences	
DRILLING EQUIPMENT: Push Probe	LOCATION: Evans, CO
DRILL BIT SIZE (INCHES): 2.375"	NORTHING (CO STATE PLANE): 4457185
DATE STARTED - COMPLETED: 1/23/2019	EASTING (CO STATE PLANE): 530900.9
TOTAL WELL DEPTH (FT. BGS): 11.5	CASING ELEVATION (FT. AMSL): 4742.72
DEPTH TO WATER (FT. BGS): 2.5	GROUND ELEVATION (FT. AMSL): 4742.92



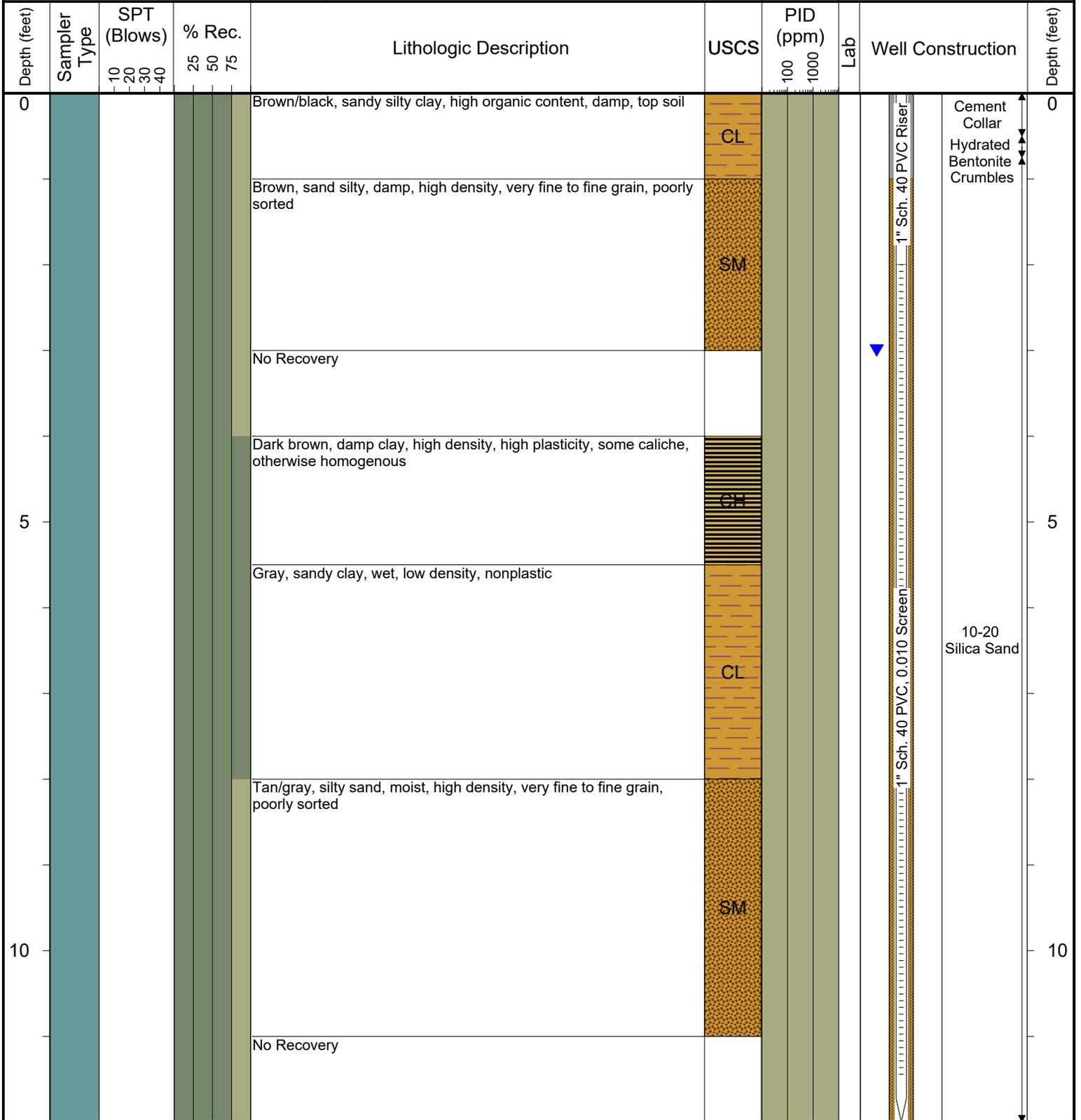
Drilling / Sample Method:

- Solid Stem Auger
- Macro Liner
- Geotechnical Lab
- Geotechnical & Analytical Chemistry Lab
- Push Probe
- CME Continuous Sample Tube
- Analytical Chemistry Lab



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CLIENT: PDC Energy Inc.	Mark 11, 12, 14-35 Tank Battery
LOGGED BY: Alexander Hamilton	
PROJECT MANAGER: Brock Nelson	BORING / WELL ID: BH07
DRILLING CONTRACTOR: Tasman Geosciences	
DRILLING EQUIPMENT: Push Probe	LOCATION: Evans, CO
DRILL BIT SIZE (INCHES): 2.375"	NORTHING (CO STATE PLANE): 4457205.7
DATE STARTED - COMPLETED: 1/23/2019	EASTING (CO STATE PLANE): 530889.2
TOTAL WELL DEPTH (FT. BGS): 12	CASING ELEVATION (FT. AMSL): 4742.58
DEPTH TO WATER (FT. BGS): 3	GROUND ELEVATION (FT. AMSL): 4742.77



Drilling / Sample Method:

- Solid Stem Auger
- Macro Liner
- Push Probe
- CME Continuous Sample Tube

Laboratory Sample Types:

- Geotechnical Lab
- Analytical Chemistry Lab
- Geotechnical & Analytical Chemistry Lab



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PROJECT MANAGER: Brock Nelson

DRILLING CONTRACTOR: Tasman Geosciences

DRILLING EQUIPMENT: Push Probe

DRILL BIT SIZE (INCHES): 2.375"

DATE STARTED - COMPLETED: 1/23/2019

TOTAL WELL DEPTH (FT. BGS): 12

DEPTH TO WATER (FT. BGS): 2.5

Mark 11, 12, 14-35 Tank Battery

BORING / WELL ID: BH08

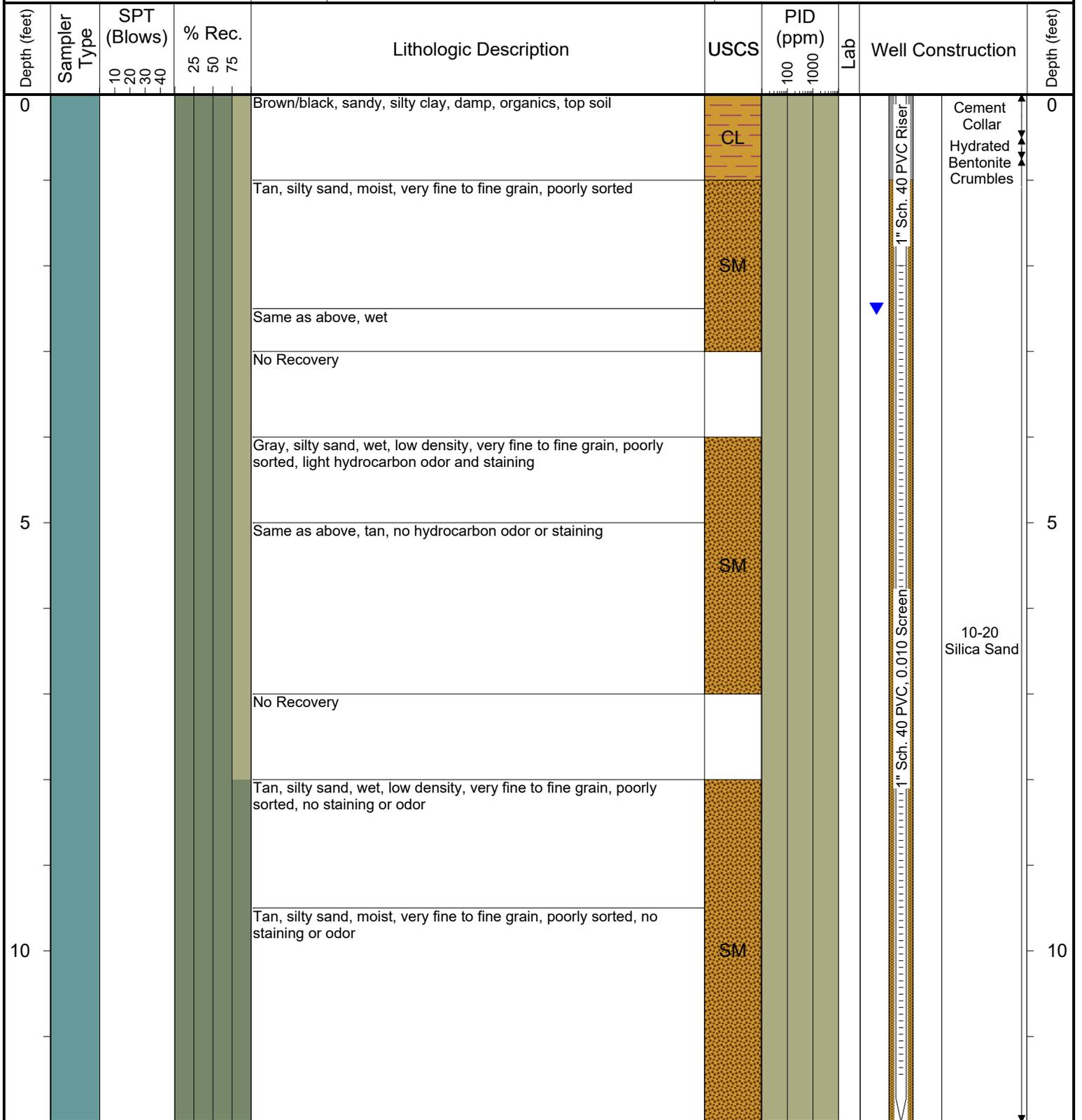
LOCATION: Evans, CO

NORTHING (CO STATE PLANE): 4457220.8

EASTING (CO STATE PLANE): 530908.3

CASING ELEVATION (FT. AMSL): 4742.66

GROUND ELEVATION (FT. AMSL): 4742.85



Drilling / Sample Method:

- Solid Stem Auger
- Macro Liner
- Push Probe
- CME Continuous Sample Tube

Laboratory Sample Types:

- Geotechnical Lab
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- Geotechnical & Analytical Chemistry Lab



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DRILLING EQUIPMENT: Push Probe

DRILL BIT SIZE (INCHES): 2.375"

DATE STARTED - COMPLETED: 1/23/2019

TOTAL WELL DEPTH (FT. BGS): 12

DEPTH TO WATER (FT. BGS): 2.5

Mark 11, 12, 14-35 Tank Battery

BORING / WELL ID: BH09

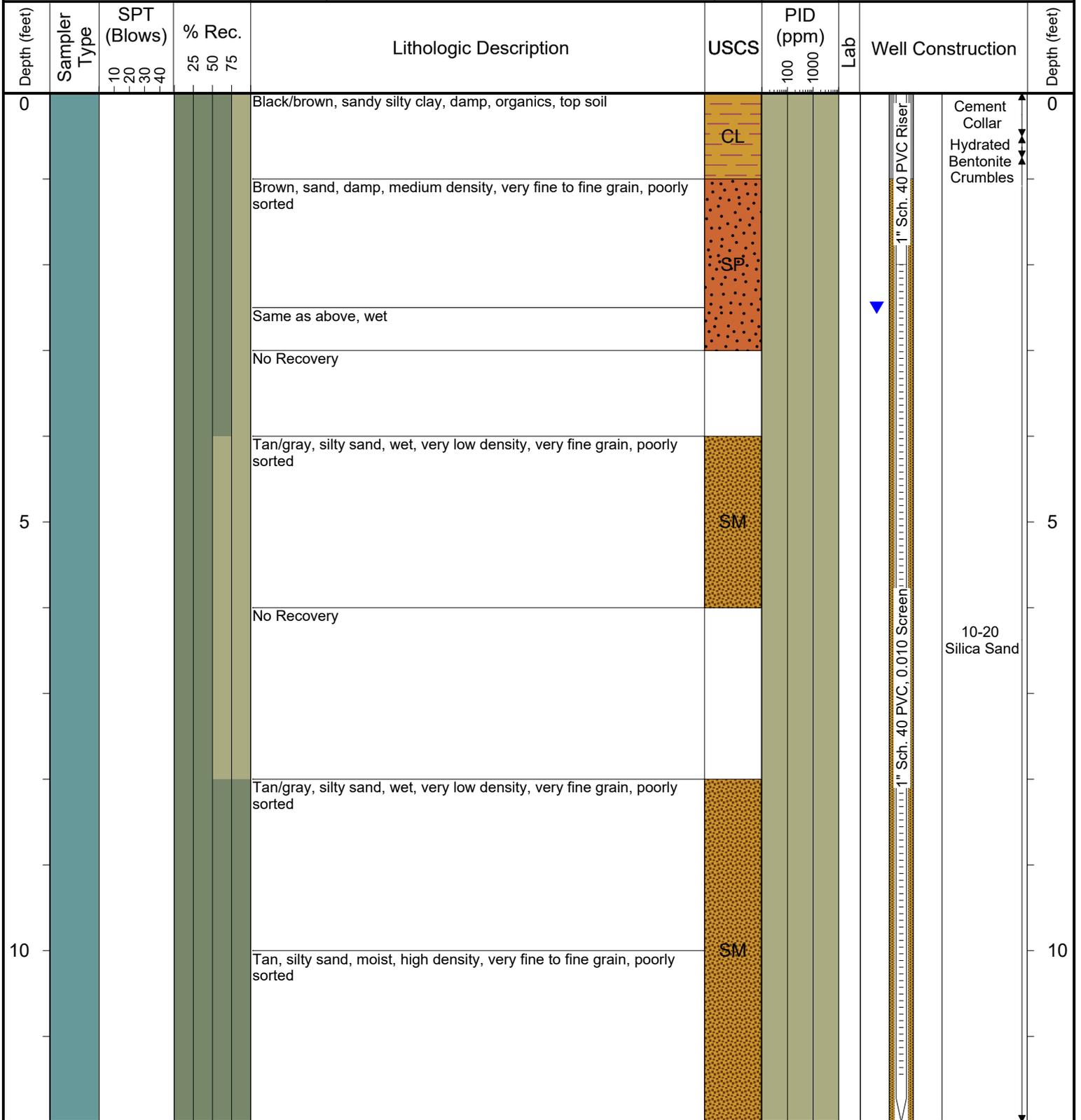
LOCATION: Evans, CO

NORTHING (CO STATE PLANE): 4457212.2

EASTING (CO STATE PLANE): 530935

CASING ELEVATION (FT. AMSL): 4743.28

GROUND ELEVATION (FT. AMSL): 4743.52



Drilling / Sample Method:

- Solid Stem Auger
- Push Probe

- Macro Liner
- CME Continuous Sample Tube

Laboratory Sample Types:

- Geotechnical Lab
- Analytical Chemistry Lab
- Geotechnical & Analytical Chemistry Lab