

Date: 6/28/15

## BOREHOLE LITHOLOGICAL LOG

Page 1 of

Well Number/Name: MW-7D

Name: AZAD KHAN 164641

Sample Depth (ft)	Drilling Rate (ft/hr)	Color: Munsell Name and Class	Moisture Content		Particle % Dist.		Grain Size		Grain Size		Sorting	Grain Shape	Plasticity	Cementation	Mineral Composition		Rock Type (USCS Group)	Comment		
			Dry	Moist	Saturated	Cobbles	Fines	Sand	Gravel	Fine					Well	Medium	Poor			
			Gravel	Sand	Silt	Clay	Clay	Clay	Coarse	Fine					Angular	Sub-Angular	Sub-Rounded	Rounded		
0		7.5YR 3/3 DARK Brown	X	X			70-80													SILTY SAND
7		7.5YR 3/2 DARK Brown		X			65-70 10-15	X	X										SM	
9		2.5Y 5/6 LIGHT brown		X			100													SILTY SAND w/ CLAY (CLUMPS OF CLAY IN SAND)
19		2.5Y 4/3 LIGHT yellowish Brown		X			100													SAND.
30.5		2.5Y 4/3 LIGHT yellowish Brown	X				75-85												SP	
30.5		10YR 4/3 Brown	X				75-85	X	X										SP-GP	SAND w/ SANDSTONE GRAVEL (OF SAME SP)
30.5		10YR 4/3 Brown	X				75-85	X	X										SM	SILTY SAND

Drilling Contractor:

Sampling Method:

Drilling Rig Type:

Descriptive Location:

Drilling Method:

Date: 6-28-15

## BOREHOLE LITHOLOGICAL LOG

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Well Number/Name: MW-7D

Name: AZAD KHANLICH

35	10YR 5/4 Yellowish Brown	X X	X <sup>(2)</sup> X	X X X	/	X	X	X	X	X X X X	SP
41	10YR 6/3 PALO Brown	X	X <sup>(2)</sup> X	X X X	/	X	PP	X	PP	PP PP	SP.
50	II	X	X <sup>(2)</sup> X X	X X X	X	PP	/	V	PP	PP PP	SP
53	10YR 6/2 LIGHT Brownish Gray	X	X <sup>(2)</sup> X	X X	/	X	PP	/	PP	PP PP	SP
54.5	10YR 3/6 DARK Yellowish Brown		X <sup>(2)</sup> X	X X X	/	X	PP	X	PP	PP PP	SP
57.5'	10YR 3/6 DARK Yellowish Brown		X <sup>(2)</sup> X	X X X	/	X	PP	X	PP	PP PP	SP

**Drilling Contractor:**

#### **Sampling Method:**

#### Drilling Rig Type:

#### Descriptive Location:

#### **Drilling Method:**

Date: 6-28-15

## BOREHOLE LITHOLOGICAL LOG

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Well Number/Name: MW-7D

Name: AZAD KHAGH

**Drilling Contractor:**

#### **Sampling Method:**

#### Drilling Rig Type:

#### **Descriptive Location:**

#### **Drilling Method:**

Date: 6-28-15

## BOREHOLE LITHOLOGICAL LOG

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Well Number/Name: MW-78

Name: AZAD KHALIGI

**Drilling Contractor:**

#### **Sampling Method:**

#### Drilling Rig Type:

#### Descriptive Location:

#### Drilling Method:

# BOREHOLE LITHOLOGICAL LOG

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Sample Depth (ft)	Drilling Rate (ft/hr)	Color: Munsell Name and Class	Moisture Content	Particle % Dist.		Grain Size	Grain Size	Sorting	Grain Shape	Plasticity	Cementation	Mineral Composition	Rock Type (USCS Group)	Comment																		
			Dry	Moist	Saturated	Cobbles	Gravel																									
96		10YR 4/4 DARK yellowish brown		X																												
109		10YR 4/4 DARK yellowish brown					X																									
109		GL 1 2.5/N Greenish Black		X																												
112		10YR 5/4 yellowish brown																														
112		10YR 5/4 yellowish brown		X																												
115		10YR 3/6 DARK yellowish brown																														
115		10YR 3/6 DARK yellowish brown		X																												
117		10YR 5/3 Brown																														
117		10YR 5/3 Brown		X																												
120																																

Drilling Contractor:

Drilling Rig Type:

Drilling Method:

Sampling Method:

Descriptive Location:

Date: 6-30-2015

## BOREHOLE LITHOLOGICAL LOG

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Well Number/Name: MW-7D

Name: AZAD KHALIGHI

Sample Depth (ft)	Drilling Rate (ft/hr)	Color: Munsell Name and Class	Moisture Content	Particle % Dist.		Grain Size	Grain Size	Sorting	Grain Shape	Plasticity	Cementation	Mineral Composition	Rock Type (USCS Group)	Name: <i>HABD KHALIGHI</i>	Comment	
Dry	Moist		Saturated	Cobbles	Gravel	Sand	Fines									
Medium	Coarse		Fine	Coarse	Max	Well	Medium	Poor	Angular	Sub-Angular	Sub-Rounded	Rounded	None	Low	Medium	High
Coarse	Fine		Clay	Silt	Sand	Fine	Clay	Coarse	Sub-Angular	Sub-Rounded	Well	Well	None	Low	Medium	High
Fine	Medium		Fine	Clay	Silt	Clay	Fine	Medium	Sub-Angular	Sub-Rounded	Well	Well	Weak	Medium	Strong	Strong
Medium	Coarse		Clay	Silt	Sand	Fine	Clay	Medium	Sub-Angular	Sub-Rounded	Well	Well	Moderate	Medium	Strong	Strong
Coarse	Fine		Silt	Sand	Fine	Clay	Fine	Coarse	Sub-Angular	Sub-Rounded	Well	Well	None	High	Medium	High
Fine	Medium		Sand	Fine	Clay	Silt	Sand	Medium	Sub-Angular	Sub-Rounded	Well	Well	Weak	Medium	Strong	Strong
Medium	Coarse		Fine	Clay	Silt	Sand	Fine	Coarse	Sub-Angular	Sub-Rounded	Well	Well	Moderate	Medium	Strong	Strong
Coarse	Fine		Silt	Sand	Fine	Clay	Fine	Medium	Sub-Angular	Sub-Rounded	Well	Well	None	High	Medium	High

### Drilling Contractor:

#### **Sampling Method:**

#### Drilling Rig Type:

#### Descriptive Location:

#### Drilling Method:

Date: 6-30-2015

## **BOREHOLE LITHOLOGICAL LOG**

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Well Number/Name: MW-TD

Name: Azaad Khalighi

**Drilling Contractor:**

#### **Sampling Method:**

#### Drilling Rig Type:

#### Descriptive Location:

#### Drilling Method:

Date: 6-30-2015

## **BOREHOLE LITHOLOGICAL LOG**

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Well Number/Name: MW-7D

Name: AZAD KHAN (1607)

### Drilling Contractor:

#### **Sampling Method:**

#### Drilling Rig Type:

#### Descriptive Location:

#### Drilling Method:

Date: 6-30-2015

## BOREHOLE LITHOLOGICAL LOG

Well Number/Name: MW-7D

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173.5	10YR 4/6 DARK Yellowish Brown		X	X	X X X		X X X		/	X	X X X		SP	SAND
183	183-185 = 2.5YR 6/4 Light yellowish brown		X	X	X		X X X		/	X	X X X		SP	SAND
185	185 - 186.5 = 7.5YR 4/6 Strong green		X	X	X		X X X		/	X	X X X		SP	- VAGRO Colca
187	186.5 - 187 = 7.5YR 3/4 DARK BROWN		X	X	X		X X X		/	X	X X X		GP	SANDY Gravel w/ Tone COBBLE
187	7.5YR 3/2 DARK Brown			30 35	X X X	X X X X X X X	X X	X X X		X	X X X		SP	- RND GRAV & COBB
192	10YR 5/3 Brown		5 20 25	X X X	X X X X X X X	X X X X X X X	X X X X X X X		/	X	X X X		SP- GP	Gravelly SAND: w/ Tone COBBLE - RND GRAV & COBB
193.5	10YR 3/3 DARK Brown		X	X	X X	X X X X X X X	X X X X X X X		/	X	X X X		SP	"Brown SAND": -(193.5 - 208) HAN S.S. CHUNKS (GRAV & COBB SIZE) OF same sand.
224	10YR 3/3 DARK Brown		X	X	X X	X P F	X		X	X X X X X		SP		

**Drilling Contractor:**

#### **Sampling Method:**

#### Drilling Rig Type:

#### Descriptive Location:

#### **Drilling Method:**

Date: 6-30-15

## BOREHOLE LITHOLOGICAL LOG

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Well Number/Name: MW-7D

Name: AZAD KHALIGHI

**Drilling Contractor:**

#### **Sampling Method:**

#### Drilling Rig Type:

#### **Descriptive Location:**

#### Drilling Method:

Date: 6-30-2015

## BOREHOLE LITHOLOGICAL LOG

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Well Number/Name: MW-7D

Name: AZAD KHALIGA/

Sample Depth (ft)	Drilling Rate (ft/hr)	Color: Munsell Name and Class	Moisture Content		Particle % Dist.		Grain Size		Grain Size		Sorting		Grain Shape		Plasticity		Cementation		Mineral Composition		Rock Type (USCS Group)	Comment														
			Dry	Moist	Saturated	Cobbles	Gravel	Sand	Fines	Sand	Gravel	Fine	Medium	Coarse	Max	Well	Medium	Poor	Angular	Sub-Angular	Sub-Rounded	Rounded	None	Low	Medium	High	None	Weak	Moderate	Strong	Quartz	Feldspar	Mica	Amphibole	Evaporites	Other

236		11																																
239																																		
239		11																																
241																																		
241'		11																																
244.5																																		
244.5'		11																																
247																																		
247		5 1/2	OLIVE Gray																															
258																																		

Drilling Contractor:

Sampling Method:

Drilling Rig Type:

Descriptive Location:

Drilling Method:

Date: 7-1-2015

## BOREHOLE LITHOLOGICAL LOG

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Well Number/Name: MW-7D

Name: AZAD KHAN

### Drilling Contractor:

#### **Sampling Method:**

#### Drilling Rig Type:

#### **Descriptive Location:**

#### Drilling Method:

Date: 7-1-2015

# BOREHOLE LITHOLOGICAL LOG

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Well Number/Name: NW-7+

Name: AZAD KHALIGHI

**Drilling Contractor:**

#### **Sampling Method:**

#### Drilling Rig Type:

#### Descriptive Location:

#### Drilling Method:

Date: 7-1-2015

## BOREHOLE LITHOLOGICAL LOG

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Well Number/Name: MW-7D

Name: ASAD KHALIGH

### Drilling Contractor:

#### **Sampling Method:**

#### Drilling Rig Type:

#### Descriptive Location:

#### Drilling Method:

Date: 7-1-15

## **BOREHOLE LITHOLOGICAL LOG**

Well Number/Name: ~~10~~ MW-7D

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Name: AZAD KHALIQ

**Drilling Contractor:**

#### Sampling Method:

#### Drilling Rig Type:

#### Descriptive Location:

#### **Drilling Method:**

Date: 7-1-15

## BOREHOLE LITHOLOGICAL LOG

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Well Number/Name: MW-7D

Name: Azaad Khaligh

Sample Depth (ft)	Drilling Rate (ft/hr)	Color: Munsell Name and Class	Moisture Content	Particle % Dist.		Grain Size	Grain Size	Sorting	Grain Shape	Plasticity	Cementation	Mineral Composition	Rock Type (USCS Group)	Comment																															
Dry	Moist		Saturated	Cobbles	Gravel	Sand	Fines								Fine	Medium	Coarse	Fine	Coarse	Max	Well	Medium	Poor	Angular	Sub-Angular	Sub-Rounded	Rounded	None	Low	Medium	High	None	Weak	Moderate	Strong	Quartz	Feldspar	Mica	Amphibole	Evaporites	Other	Alteration Visible	Grading Analysis	Well Graded	Fat Clay
Silt	Clay		Gravel	Sand	Fines	Silt	Clay								Fine	Medium	Coarse	Fine	Coarse	Max	Well	Medium	Poor	Angular	Sub-Angular	Sub-Rounded	Rounded	None	Low	Medium	High	None	Weak	Moderate	Strong	Quartz	Feldspar	Mica	Amphibole	Evaporites	Other	Alteration Visible	Grading Analysis	Well Graded	Fat Clay
Fine	Medium		Coarse	Sand	Fines	Fine	Coarse								Fine	Medium	Coarse	Fine	Coarse	Max	Well	Medium	Poor	Angular	Sub-Angular	Sub-Rounded	Rounded	None	Low	Medium	High	None	Weak	Moderate	Strong	Quartz	Feldspar	Mica	Amphibole	Evaporites	Other	Alteration Visible	Grading Analysis	Well Graded	Fat Clay
Medium	Coarse		Gravel	Sand	Fines	Medium	Coarse								Fine	Medium	Coarse	Fine	Coarse	Max	Well	Medium	Poor	Angular	Sub-Angular	Sub-Rounded	Rounded	None	Low	Medium	High	None	Weak	Moderate	Strong	Quartz	Feldspar	Mica	Amphibole	Evaporites	Other	Alteration Visible	Grading Analysis	Well Graded	Fat Clay
Coarse	Gravel		Sand	Fines	Silt	Coarse	Gravel								Fine	Medium	Coarse	Fine	Coarse	Max	Well	Medium	Poor	Angular	Sub-Angular	Sub-Rounded	Rounded	None	Low	Medium	High	None	Weak	Moderate	Strong	Quartz	Feldspar	Mica	Amphibole	Evaporites	Other	Alteration Visible	Grading Analysis	Well Graded	Fat Clay
Gravel	Sand		Fines	Silt	Clay	Gravel	Sand								Fine	Medium	Coarse	Fine	Coarse	Max	Well	Medium	Poor	Angular	Sub-Angular	Sub-Rounded	Rounded	None	Low	Medium	High	None	Weak	Moderate	Strong	Quartz	Feldspar	Mica	Amphibole	Evaporites	Other	Alteration Visible	Grading Analysis	Well Graded	Fat Clay
Sand	Fines		Silt	Clay	Gravel	Sand	Fines								Fine	Medium	Coarse	Fine	Coarse	Max	Well	Medium	Poor	Angular	Sub-Angular	Sub-Rounded	Rounded	None	Low	Medium	High	None	Weak	Moderate	Strong	Quartz	Feldspar	Mica	Amphibole	Evaporites	Other	Alteration Visible	Grading Analysis	Well Graded	Fat Clay
Fines	Silt		Clay	Gravel	Sand	Fines	Silt								Fine	Medium	Coarse	Fine	Coarse	Max	Well	Medium	Poor	Angular	Sub-Angular	Sub-Rounded	Rounded	None	Low	Medium	High	None	Weak	Moderate	Strong	Quartz	Feldspar	Mica	Amphibole	Evaporites	Other	Alteration Visible	Grading Analysis	Well Graded	Fat Clay
Silt	Clay		Gravel	Sand	Fines	Silt	Clay								Fine	Medium	Coarse	Fine	Coarse	Max	Well	Medium	Poor	Angular	Sub-Angular	Sub-Rounded	Rounded	None	Low	Medium	High	None	Weak	Moderate	Strong	Quartz	Feldspar	Mica	Amphibole	Evaporites	Other	Alteration Visible	Grading Analysis	Well Graded	Fat Clay
Clay	Gravel		Sand	Fines	Silt	Clay	Gravel								Fine	Medium	Coarse	Fine	Coarse	Max	Well	Medium	Poor	Angular	Sub-Angular	Sub-Rounded	Rounded	None	Low	Medium	High	None	Weak	Moderate	Strong	Quartz	Feldspar	Mica	Amphibole	Evaporites	Other	Alteration Visible	Grading Analysis	Well Graded	Fat Clay
Gravel	Sand		Fines	Silt	Clay	Gravel	Sand								Fine	Medium	Coarse	Fine	Coarse	Max	Well	Medium	Poor	Angular	Sub-Angular	Sub-Rounded	Rounded	None	Low	Medium	High	None	Weak	Moderate	Strong	Quartz	Feldspar	Mica	Amphibole	Evaporites	Other	Alteration Visible	Grading Analysis	Well Graded	Fat Clay

**Drilling Contractor:**

#### **Sampling Method:**

#### Drilling Rig Type:

#### Descriptive Location:

#### Drilling Method: