

As above, with increase (approximately 10%) in gravel.

As above, with gravel up to 1/2". Increase (approximately 10%) in

Log of Boring No. BRC-SB-16-A **BMI Site - Hydrogeologic Characterization**

Henderson, Nevada



Log of Boring: BRC-SB-16-A

Project No. 3850360 MWH

Hydropunch 0.5/0.5

Hydropunch 0.5/0.5

-20

0.1

0.1

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BMI Site - Hydrogeologic Characterization Basic Remediation Henderson, Nevada Log of Boring No. BRC-SB-16-A **Geophysical Data** Well Construction Sample Retained for Analysis Sample Recovery E-Log Elevation (BGS) Sample Interval Sample Type Depth (MHO) Caliper Log (MHO) (MHO) Guard Log Lithology (M.MHO) (inch) Е. 뎹 <u>16</u> . . . Soil Description *i* coarse sand Hydropunch 0.5/0.5 0.1 As above, with gravel up to 3/8". Increase (approximately 10%) in -30 medium sand. Cement Bentonite Grout Hydropunch 0.5/0.5 0.1 GP: Poorly graded sandy gravel, dark brown, moist, very loose, unconsolidated, gravel is up to 3/4", subangular to subrounded volcanics, coarse and medium sand is subangular to subangular X ⊠ volcanics with trace ammounts of fine sand, no cementation, \boxtimes nonplastic. Approximately 65% gravel, 30% coarse sand, 5% ⊠ medium sand and trace fine sand. ⊠ `:⊠ ⊠ :: ⊠ \boxtimes Hydropunch 0.5/0.5 0.1 -40 SP: Poorly graded sand, dark brown (7.5YR3/3) moist, very loose, unconsolidated, coarse and medium sand is subangular to subrounded volcanics, with fine sand and trace silt, no cementation, nonplastic. Approximately 10% coarse sand, 70% medium sand, 20% fine sand and trace silt. Hydropunch 0.5/0.5 0.1 As above, with gravel up to 1/2". Increase (approximately 25%) in gravel SM: Poorly graded sand with gravel, dark brown (7.5YR3/3), moist, medium stiff, gravel is up to 3/8" subangular to subrounded volcanics Hydropunch 0.5/0.5 0.1 coarse and medium sand is subangular to subrounded volcanics with fine sand and silt, silt is cemented in chips up to 1/2", no cementation of the sands or gravel, nonplastic. Approxmately 10% gravel, 20% coarse sand, 30% medium sand, 20% fine sand, and 20% silt. -50 0.5/0.5 0.1 Hydropunch As above. No cementation. Increase (approximately 15%) in medium sand.

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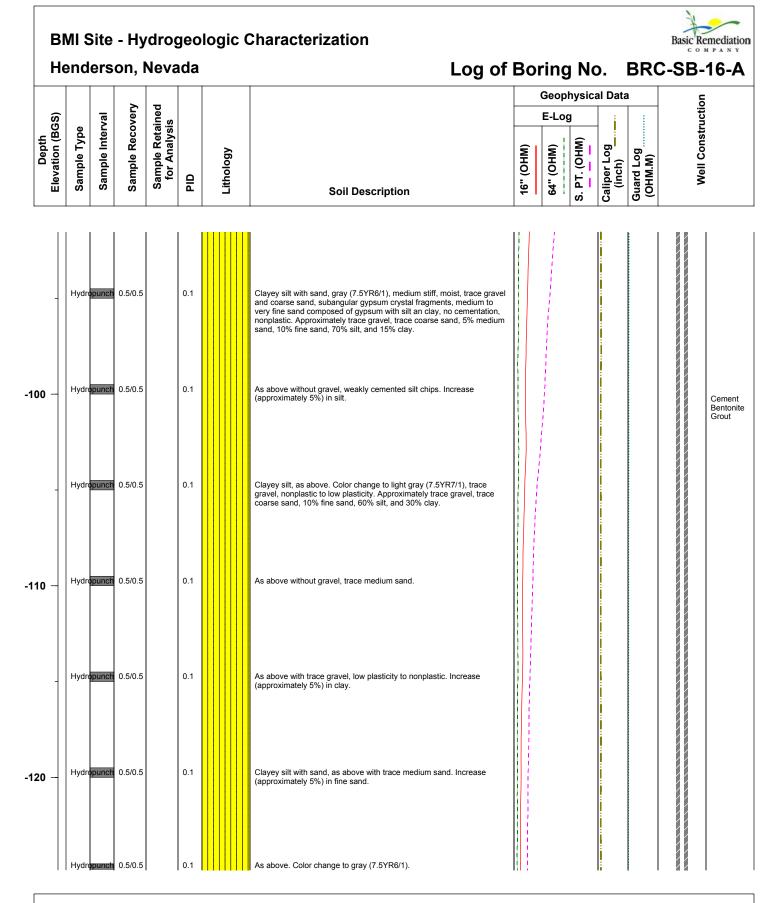
BMI Site - Hydrogeologic Characterization



Henderson, Nevada Log of Boring No. BRC-										SB-16-A			
								Geophysical Data				a	u
Depth Elevation (BGS)	Sample Type	Sample Interval	Sample Recovery	Sample Retained for Analysis	DID	Lithology	Soil Description	16" (OHM)	64" (OHM)	S. PT. (OHM)	Caliper Log (inch)	Guard Log (OHM.M)	Well Construction
-60 —	Hydr	opunch	0.5/0.5		0.1		GM: Poorly graded silty sand, brown (7.5YR4/3), moist, medium stiff, gravel is up to 3/8" subangular to subround volcanics, coarse and medium sand is subangular to subround volcanics with fine sand and silt, silt is cemented in chips up to 1/2", no cementation of the sands or gravel, nonplastic. Approximately 10% gravel, 20% coarse sand, 30% medium sand, 20% fine sand, and 20% silt. Alot of rig chatter						
_			0.5/0.5		0.1		SM: Poorly graded silty sand, brown (7.5YR5/3), loose, moist, gravel is up to 1/2", coarse and medium sand is subangular to subround volcanics, fine sand with silt and trace clay, no cementation, nonplastic. Approximately trace gravel, 10% coarse sand, 35% medium sand, 30% fine sand, 25% silt and trace clay.						Cement Bentonite Grout
-70 —			0.5/0.5		0.1		ML: Very sandy silt, pinkish gray (7.5YR7/2), very soft, moist, sand is medium to very fine with silt and trace clay, silt chips are weakly cemented, the sands and clay show no signs of cementation, nonplastic. Approximately 20% medium sand, 30% fine sand, 50% silt, and trace clay.			,			
-	Hydr	punch	0.5/0.5		0.1		Sandy silt, light brown (7.5YR6/3), medium stiff, moist, trace coarse sand is composed of gypsum crystals, medium sand is composed of gypsum crystal fragments and volcanics, fine to very fine sand with silt and trace clay, no cementation, nonplastic. Approximately trace coarse sand, 20% medium sand, 10% fine sand, 20% silt, and trace clay.						
-80 —	Hydr	punch	0.5/0.5		0.1		As above. Color change to pinkish gray (7.5YR7/2). Trace gravel up to 1/2" gypsum crystals. Increase (approximately 5%) in coarse and fine sand.						
_	Hydr	opunch	0.5/0.5		0.1		Clayey silt with sand, as above. Color change to light brown (7.5YR6/3) . Very low to no plasticity. Increase (approximately 5%) in coarse sand and approximately 15% increase in clay.		/				
-90 —	Hydr	punch	0.5/0.5		0.1		As above. Color change to light blue gray (Gley 2 7/5B) . Increase (approximately 5%) in clay.						

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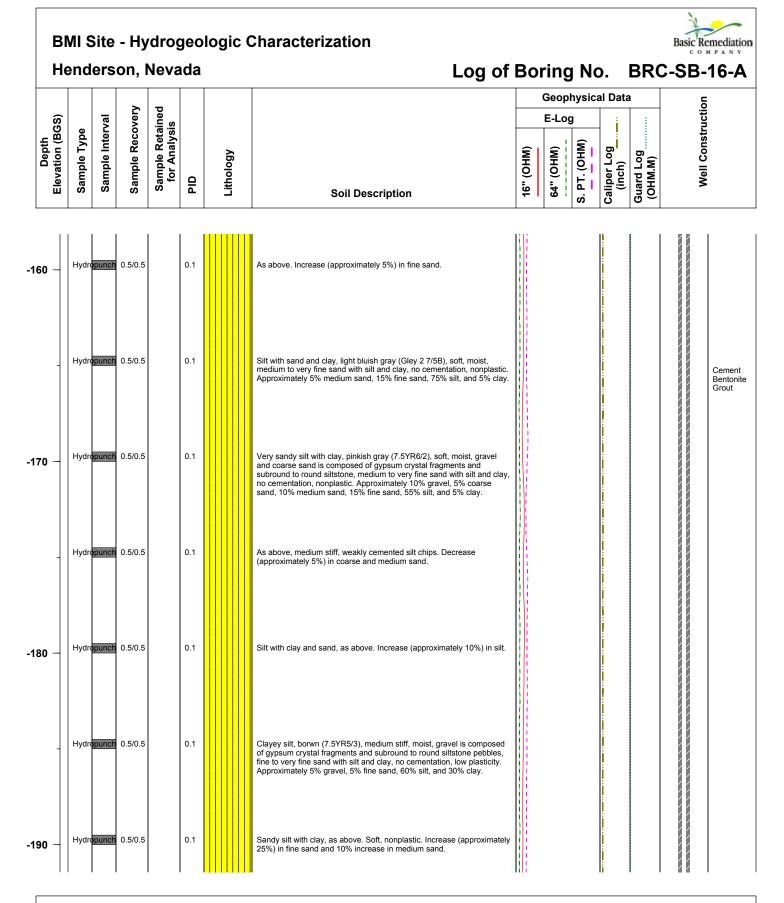
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BMI Site - Hydrogeologic Characterization Basic Remediation Henderson, Nevada Log of Boring No. BRC-SB-16-A **Geophysical Data** Well Construction Sample Retained for Analysis Sample Recovery E-Log Elevation (BGS) Sample Interval Sample Type Depth (WHO) Caliper Log (inch) (MHO) (MHO) Guard Log Lithology (M.MHO) Е. 뎹 <u>16</u> . . . Soil Description *i* Hydropunch 0.5/0.5 0.1 As above with approximately 5% increase in medium sand -130 Cement Bentonite Grout Hydropunch 0.5/0.5 0.1 As above. Color change to brown (7.5YR5/2) . Increase (approximately 15%) in silt. Hydropunch 0.5/0.5 0.1 As above. Color change pinkish gray (7.5YR6/2). Increase -140 (approximately 5%) in clay. Hydropunch 0.5/0.5 Silt with clay pinkish gray (7.5YR6/2), soft moist, trace coarse and 0.1 medium sand composed of gypsum crystal fragments, fine to very fine sand with silt and clay, no cementation, nonplastic. Approximately trace coarse sand, trace medium sand, 10% fine sand, 80% silt, and 10% clay. Silt with sand and clay, bluish gray (Gley 2 6/10B), soft moist, gravel is subangulary gypsum crystal fragments up to 1/2" and subround to round siltstone pebbles up to 3/8", fine to very fine sand with silt and clay, no cementation, nonplastic. Approximately 10% gravel, 15% fine Hydropunch 0.5/0.5 0.1 -150 sand, 70% silt, and 5% clay. Hydropunch 0.5/0.5 As above. Color change to light gray (7.5YR7/1). Increase (approximately 5%) in silt. 0.1

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BMI Site - Hydrogeologic Characterization Basic Remediation Henderson, Nevada Log of Boring No. BRC-SB-16-A **Geophysical Data** Well Construction Sample Retained for Analysis Sample Recovery E-Log Elevation (BGS) Sample Interval Sample Type Depth PT. (OHM) Caliper Log (inch) Guard Log (OHM.M) (MHO) (MHO) Lithology 뎹 <u>16</u> . . . **Soil Description** *i* Hydropunch 0.5/0.5 0.1 Silt with sand and clay, as above. Color change to brown (7.5YR4/2) . Approximately trace gravel, trace medium sand, 25% fine sand, 70% silt, and 5% clay. Hydropunch 0.5/0.5 0.1 Sandy silt with clay, as above. Color change to brown (7.5YR5/2) . -200 Increase (approximately 5%) in medium sand. Cement Bentonite Grout Silt with sand and clay, as above. Very soft, trace gravel composed of 1/2' gypsum crystal fragments. Increase (approximately 20%) in silt. Hydropunch 0.5/0.5 0.1 Hydropunch 0.5/0.5 0.1 As above, with trace medium sand. Increase (approximately 10%) in -210 fine sand As above, with trace gravel composed of 1/2" subangular gypsum crystal fragments. Increase (approximately 10%) in silt. Hydropunch 0.5/0.5 0.1 Hydropunch 0.5/0.5 0.1 As above, without gravel and with trace coarse and medium sand. -220

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Basic Remediation

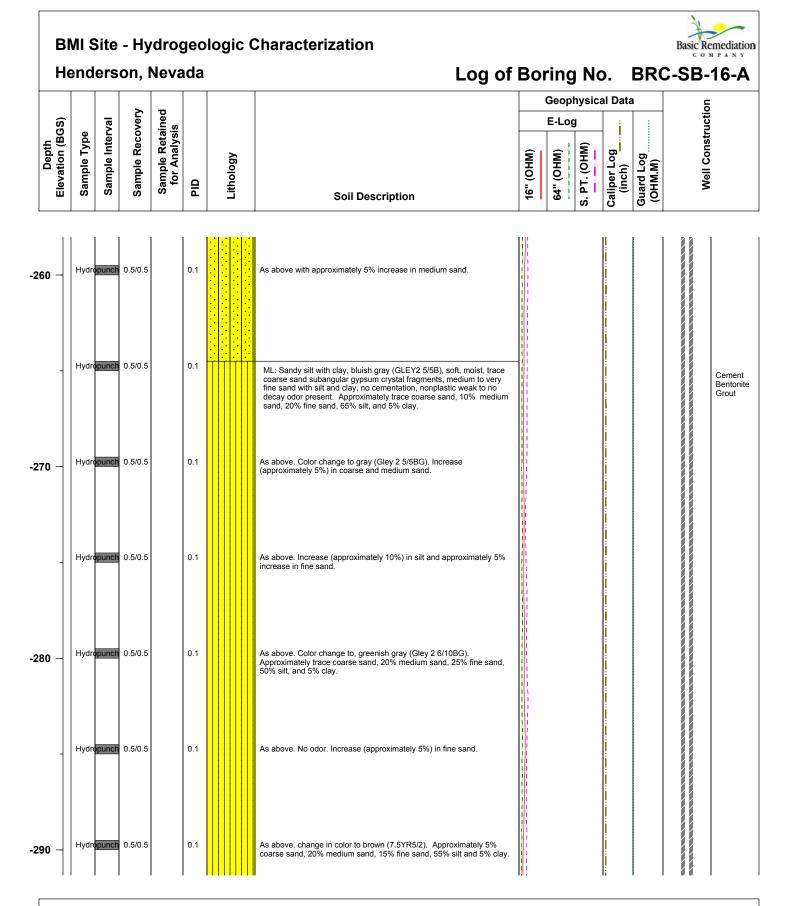
BMI Site - Hydrogeologic Characterization

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					-				Geophy	sical Data	a	u n n n n n n n n n n n n n n n n n n n
Depth	Elevation (BGS)	Sample Type	Sample Interval	Sample Recovery	Sample Retained for Analysis	DIA	Lithology	Soil Description	E-Log 64" (OHM) 64" (OHM)	Caliper Log	Guard Log (OHM.M)	Well Construction
	-	Hydro	punch	0.5/0.5		0.1		Clayey silt, as above. Color change to brown (7.5YR5/3) , no trace coarse sand., low plasticity. Increase (approximately 10%) in clay.		:		
-230	_	Hydro	punch	0.5/0.5		0.1		Sandy silt with clay, greenish gray (Gley 2 5/5BG), soft to medium stiff, moist, medium to very fine sand with silt and clay, no cementation, nonplastic, odor present, smells like decaying organic material. Approximately 5% medium sand, 30% fine sand, 60% silt, and 5% clay.				
	-	Hydro	punch	0.5/0.5		0.1		As above, with trace coarse sand composed of gypsum crystal fragments.				Cement Bentonite Grout
-240	_	Hydro	punch	0.5/0.5		0.1		As above, with approximately 10% increase in fine sand.				Cement Bentonite Grout
	-	Hydro	punch	0.5/0.5		0.1		As above, with approximately 10% increase in silt.				
-250	_	Hydro	punch	0.5/0.5		0.1		As above, with approximately 20% decrease in silt.				
	-	Hydro	punch	0.5/0.5		0.1		SM: Very silty sand, greenish gray (Gley 2 5/5BG), soft, moist, coarse and medium sand is composed of subangular - subround gypsum crystal fragments, fine to very fine sand with silt and trace clay, no cementation, nonplastic, strong decay odor. Approximately 5% coarse sand, 20% medium sand, 35% fine sand, 40% silt, and trace clay.				

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BMI Site - Hydrogeologic Characterization Basic Remediation Henderson, Nevada Log of Boring No. BRC-SB-16-A **Geophysical Data** Well Construction Sample Retained for Analysis Sample Recovery E-Log Elevation (BGS) Sample Interval Sample Type Depth (WHO) Caliper Log (inch) Guard Log (OHM.M) (MHO) (MHO) Lithology Е. 뎹 <u>16</u> . . . Soil Description *i* As above. Color change to greenish gray (Gley 2 6/5BG). Increase (approximately 15%) in fine sand. Hydropunch 0.5/0.5 0.1 Hydropunch 0.5/0.5 0.1 As above. Increase (approximately 10%) in silt. -300 Cement Bentonite Grout Hydropunch 0.5/0.5 0.1 Sandy silt, gray (7.5YR5/1), medium stiff to soft, moist, gravel is buanguar to angular chips of siltsont up to 3/4", coarse and medium sand is composed of subangular to subround gypsum crystal fragments, fine to very fine sand with silt, no cementation, nonoplastic. Approximately 5% gravel, 5% coarse sand, 10% medium sand, 20% fine sand, and 60% silt. Hydropunch 0.5/0.5 0.1 As above. Color change to brown (7.5YR5/2). Increase (approximately -310 15%) in fine sand. Hydropunch 0.5/0.5 Very sandy silt with clay, brown (7.5YR5/2), medium stiff moist, gravel 0.1 is composed of subangular gypsum crystal fragments and siltstone chips, trace coarse sand consists of gypsum crystal regiments and shitsfold silt and clay, no cementation, nonplastic. Approximately 10% gravel, trace coarse sand, 15% medium sand, 20% fine sand, 50% silt, and 5% clay. Hydropunch 0.5/0.5 0.1 As above. Increase (approximately 10%) in silt. -320

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BMI Site - Hydrogeologic Characterization Basic Remediation Henderson, Nevada Log of Boring No. BRC-SB-16-A **Geophysical Data** Well Construction Sample Retained for Analysis Sample Recovery E-Log Elevation (BGS) Sample Interval Sample Type Depth (WHO) Caliper Log (inch) (MHO) (MHO) Guard Log Lithology (M.MHO) Е. 뎹 <u>"9</u> . . . Soil Description *i* Hydropunch 0.5/0.5 0.1 As above. Increase (approximately 5%) in medium sand and silt. Hydropunch 0.5/0.5 0.1 As above. Increase (approximately 10%) in silt and approximately 5% -330 increase in clay. Cement Bentonite Grout Hydropunch 0.5/0.5 0.1 Clayey silt with sand, brown (7.5YR5/2), soft, moist, trace gravel is composed of subangular gypsum crystal fragments and subround siltstone, medium to very fine with silt and clay, some chips of weakly cemented silt, no cementation of the sand or clay, low to no plasticity. Approximately trace gravel, 5% medium sand, 10% fine sand, 70% silt,and 15% clay 0.5/0.5 0.1 As above. Increase (approximately 10%) in fine sand and Hydropunch -340 approximately 5% in medium sand Hydropunch 0.5/0.5 0.1 Clayey silt with sand, as above. Increase (approximately 5%) in silt and clay Hydropunch 0.5/0.5 0.1 Silt with sand and clay, as above. Increase (approximately 5%) in -350 medium and fine sand Bentonite seal Hydropunch 0.5/0.5 0.1 Clayey silt with sand, brown (7.5YR5/2), soft, moist, trace gravel and coarse sand is subangular gypsum crystal fragments, medium to very fine sand with silt and clay, sparse weakly cemented silt chips, no cementation of the sand or clay, nonplastic. Approximately trace gravel, trace coarse sand, 5% medium sand, 10% fine sand, 70% silt, and 15% clay.

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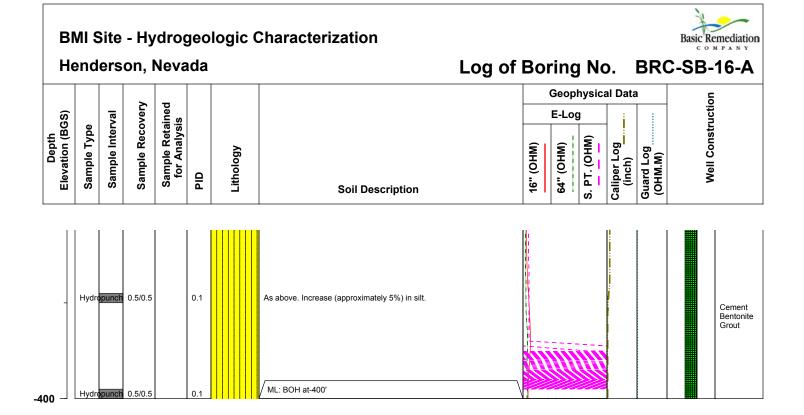
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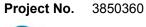
BMI Site - Hydrogeologic Characterization Basic Remediation Henderson, Nevada Log of Boring No. BRC-SB-16-A **Geophysical Data** Well Construction Sample Retained for Analysis Sample Recovery E-Log Elevation (BGS) Sample Interval Sample Type Depth (MHO) Caliper Log (MHO) (MHO) Guard Log Lithology (M.MHO) (inch) Е. 뎹 <u>"9</u> . . . Soil Description *i* #1C 0.5/0.5 0.1 Silt with sand and clay, as above, moist to wet. Increase (approximately Transition Hyd -360 Sand 5%) in medium and fine sand. #10 x 20 Sand Hydropunch 0.5/0.5 0.1 As above. Increase (approximately 10%) in medium and fine sand. 4" 0.010 Slot PVC screen 0.5/0.5 0.1 Hydropunch -370 SM: Very poorly graded sand, brown (7.5YR5/2), soft, moist to wet coarse and medium sand consists of gypsum crystal fragments, fine to very fine sand with silt and trace caly, no cementation, nonplastic. Approximately 5% coarse sand, 25% medium sand, 25% fine sand, 45% silt, trace clay. Hydropunch 0.5/0.5 0.1 ML: Very sand silt with clay, brown (7.5YR5/2) ,soft, moist to wet, coarse and medium sand consists of gypsum crystal fragments, fine to very fine sand with silt and trace caly, no cementation, nonplastic. Approximately 5% coarse sand, 15% medium sand, 20% fine sand, 55% silt, and 5% clay. Hydropunch 0.5/0.5 0.1 -380 SM: Very silty sand with clay, brown (7.5YR5/2), soft, moist to wet, coarse and medium sand consists of gypsum crystal fragments, fine to very fine sand with silt and trace caly, no cementation, nonplastic. Approximately 10% coarse sand, 15% medium sand, 20% fine sand, 50% silt, 5% clay. Hydropunch 0.5/0.5 0.1 Threaded ML: Very sandy silt with clay, brown (7.5YR5/2), soft, moist to wet, PVC Well coarse and medium sand consists of gypsum crystal fragments, fine to very fine sand with silt and trace caly, no cementation, nonplastic. Base Cap Approximately 10% coarse sand, 15% medium sand, 20% fine sand, 50% silt, 5% clay. Basal **Bentonite** Seal 0.5/0.5 0.1 As above. Increase (approximately 5%) in fine sand Hydropunch -390



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