32 B

DIVISION OF WATER RESOURCES
WELL DRILLER'S REPORT

Log No. 108938
Permit No.
Basin

PRINT OR TYPE ONLY
DO NOT WRITE ON BACK

Please complete this form in its entirety in accordance with NRS 534.170 and NAC 534.3[illegible]

NOTICE OF INTENT NO. 32217

1. OWNER Basic Environmental co LLC
MAILING ADDRESS 875 warmSpring Rd
Henderson NV 89014

ADDRESS AT WELL LOCATION Henderson
Subdivision Name:
County: Clark

2. LOCATION SW SW ¼ Sec 05 T 22 N/S R 63 E
PERMIT/WAIVER No. H060688 (Issued by Water Resources) | 179023010004 Parcel No.
Latitude 36.03 608N
Longitude 114.58.542W
UTM E N
☐ NAD 27 ☒ NAD 83/WGS 84

3. WORKED PERFORMED
☒ New Well ☐ Replace ☐ Recondition ☐ Deepen ☐ Other

4. PROPOSED USE
☐ Domestic ☐ Irrigation ☐ Test ☐ Municipal/Industrial ☒ Monitor ☐ Stock

5. WELL TYPE
☐ Cable ☐ Rotary ☐ RVC ☐ Air ☒ Other Sonic Dr.

6. LITHOLOGIC LOG

Material	Water Strata	From	To	Thickness
attached Log				

Date started: 6-16-09, 20 09
Date completed: 6-19-09, 20 09

7. Water Level
Static water level: 30 feet below land surface
Artesian Flow: G.P.M. P.S.I.
Water Temperature: °F
Quality:

8. WELL TEST DATA
TEST METHOD: ☐ Bailer ☐ Pump ☐ Air Lift

G.P.M.	Draw Down (Feet Below Static)	Time (Hours)

9. WELL CONSTRUCTION
Depth Drilled 160 Feet Depth Cased 160 Feet

HOLE DIAMETER (BIT SIZE)

		From	To
8"	Inches	0 Feet	160 Feet
	Inches	Feet	Feet
	Inches	Feet	Feet

CASING SCHEDULE

Size O.D. (Inches)	Weight/Ft. (Pounds)	Wall Thickness (Inches)	From (Feet)	To (Feet)
4"	PVC	Sch 40	0	160

Perforations
Type of perforation Slotted SLRIECH
Size of perforation 0.010
From 140' feet to 160' feet
From feet to feet
From feet to feet
From feet to feet
From feet to feet

Annular Seal: ☐ Yes ☐ No
☐ Neat Cement to ☐ Pumped ☐ Poured
☐ Cement Grout to ☐ Pumped ☐ Poured
☒ Concrete Grout 0 to 130 ☒ Pumped ☐ Poured
☐ =30% Bentonite Grout to ☐ Pumped ☐ Poured

Gravel Pack: ☒ Yes ☐ No 135 to 160 ☐ Pumped ☒ Poured
Type: Cemex Sand 2/16
Bentonite Chips: ☒ Yes ☐ No 130 to 135 ☐ Pumped ☒ Poured
Type: Time Release Hole Plug 3/8

10. DRILLER'S CERTIFICATION
This well was drilled under my supervision and the report is true to the best of my knowledge.
Name EAGLE Drilling (Contractor)
Address 7150 Placid Street (Contractor)
Las Vegas NV 89119
Nevada contractor's license number issued by the State Contractor's Board 51266
Nevada driller's license number issued by the Division of Water Resources, the on-site driller 2097
Signed (By driller performing actual drilling on site or contractor)
Date 7-6-09

(Rev. 05-08) USE ADDITIONAL SHEETS IF NECESSARY

DCNR/DWR RECEIVED
SEP 01 2009
LAS VEGAS OFFICE

GES	Job Name: BRC MONITOR WELLS	Boring No. MCF-32A

Job No. 20092509V1	Start: 6-9-09	Location: See fig. 2
	End:	
Total Depth: 37.1'	Groundwater Depth:	Comments:
Elevation:	Date:	
	Time:	
Equipment: "Sonic" Drill Rig	Type of Bit: 6" O.D. Core Barrel	
Hammer (lbs/inches): 140 #/30"	Driller: Shaun Sears	Surface Dry Density (pcf):
Surface Condition: Leveled Native	Logger: Monty Mehlhorn	Surface Moisture Content (%):

Depth (feet)	REC	Sample Type	Blows/ 6 Inches	USCS	Description	Pene-trometer	Depth (feet)
	Run #1			SM	Very pale brown (10YR 7/3) silty SAND w/gravel (~15% silt, 55% sand (poorly graded, subrounded, ~20% cs, 10% ms, 70% fs), ~30% gravel (sub-angular, well-graded, ~60% cg, ~10% fg), moist, loose, homogeneous, no reaction to HCl. Sand: ~70% felsics, ~30% mafics; Gravel: ~50% dacite, 30% andesite, ~10% basalt, ~10% chalcedony.		
					...to 8.5': dark greenish gray pond material, transitions into same material as above.		
		MCF-32A-10, pH=7.67			...Very pale brown (10YR 8/4), Qal sample #MCF-32A-10		
	Run #2				...stratified (1.0' beds).		

GES	Job Name: BRC MONITOR WELLS	Boring No. MCF-32A
Job No. 20092509V1	Start: 6-9-09 / End:	Location: See fig. 2

Depth (feet)	REC	Sample Type	Blows/ 6 Inches	USCS	Description	Pene-trometer	Depth (feet)
	Run #2			SM	...same as above.		
13							13
14					...reddish yellow (7.5YR 6/6).		14
15	Run #3						15
16							16
17							17
18	Run #4				...same as above.		18
19							19
20					...gradational contact w/:		20
21	Run #5			SM	Reddish yellow (7.5YR 6/6) silty SAND (~20% silt, 70% sand (subangular-subrounded, well-graded, ~40% cs, 20% ms, 40% fs), ~10% gravel (subangular, poorly graded, ~100% fg), moist, v. dense, stratified (1' beds), strong reaction to HCl, same composition as above (sand/gravel).		21
22							22
23							23
24							24
25							25
26					...6-10-09: no core recovery due to drilling problems.		26
27							27
28							28

GES

Job Name: BRC MONITOR WELLS

Boring No. MCF-3ZA

Job No. 20092509V1

Start: 6-9-09

End:

Location: See fig. 2

Depth (feet)	REC	Sample Type	Blows/ 6 Inches	USCS	Description	Pene-trometer	Depth (feet)
29	No core due to difficult drilling			SM	...same as above; no core recovery due to drilling issues.		29
30							30 6-9-09 6-10-0
31							31
32							32
33							33
34							34
35							35
36							36
37							37
38							38
39							39
40					...resume coring.		40
41	Run #6			SM	Light brown (7.5YR 6/4) silty SAND w/gravel (~15% silt, 60% ~~gr~~ mm sand (subrounded, poorly graded, ~20% cs, 5% ms, 75% fs), 25% gravel (sub-angular to subrounded, poorly graded, ~100% fg)), moist homogenous, strong reaction		41
42							42
43							43
44							44

GES	Job Name: BRC MONITOR WELLS	Boring No. MCF-32A
Job No. 2009250	Start: 6-9-09 / End:	Location: See p.1

Depth (feet)	REC	Sample Type	Blows/ 6 inches	USCS	Description	Pene-trometer	Depth (feet)
45	Run #6			SM	to HCl, sand: ~80% felsics, 20% mafics. Gravel: ~50% dacite, 25% andesite, ~25% basalt.		45
46							46
47							47
48		MCF-32A-47, pH=~~9.70~~ 8.70 mm					48
49	Run #6				abrupt contact w:		49
50	Run #7			SM	Very pale brown (10YR 8/3) silty SAND (~15% silt, 85% sand (subrounded, poorly graded, ~20% ms, ~80% fs), moist, weakly cemented in nodules/0.5" layers, v. dense, stratified, strong reaction to HCl, sand: ~95% felsics, 5% mafics, abrupt contact w/:		50
51							51
52							52
53							53
54							54
55							55
55.5'							
56	Run #8			ML	Tertiary Muddy Creek Formation: ML: Greenish gray (Gley 1, 6/10Y) SILT (~95% silt, 5% sand (subrounded, poorly graded, ~100% fs)), moist, weakly cemented, v. stiff, stratified (0.5" layers), weak reaction to HCl. ...@~58': yellowish red (5YR 5/6)		56
57							57
58							58
59							59
60							60

GES	Job Name: BRC MONITOR WELLS	Boring No. MCF-32A

Job No.	Start:	Location:
20092509V1	6-9-09	See p. 1
	End:	

Depth (feet)	REC	Sample Type	Blows/ 6 inches	USCS	Description	Pene-trometer	Depth (feet)
				ML	...same as above		
61							61
62							62
63							63
64							64
65							65
66							66
67	Run #8			ML wet	Layered yellowish red (5YR 5/6, ~80%) and greenish gray (Gley 1, 5/10Y) sandy SILT (~80% silt, ~20% sand (subrounded, poorly graded, ~100% qtz)) wet, weakly cemented, v. stiff, stratified (0.5"-0.5' beds), weak reaction to HCl, contact abrupt with: 69': ML: Strong brown (7.5YR 5/6) SILT (~95% silt, trace sand, 5% gypsum as matrix cement), moist, weakly cemented, v. stiff, laminated (2mm-5mm thick layers), weak reaction to HCl.		67
68		MCF-32A-69, pH = 8.80					68
69							69
70				ML			70
71	Run #9						71
72							72
73							73
74							74
75							75
76							76

GES	Job Name: BRC MONITOR WELLS	Boring No. MCF-32A
Job No. 20092509V1	Start: 6-9-09 / End:	Location: See p. 1

Depth (feet)	REC	Sample Type	Blows/ 6 inches	USCS	Description	Pene-trometer	Depth (feet)
77	Run #9			ML	...same as above		77
78					...mottled / layered greenish gray		78
79							79
80					...contact abrupt:		80
81				ML wet	Mottled / layered light brown (7.5YR 6/4, 60%) and light greenish gray (Gley 1, 7/10Y) sandy SILT (~70% silt, 20% sand (subrounded, poorly graded, ~100% fs), 10% gypsum as matrix cement), wet (along bedding/cementation layers), weakly cemented, v. stiff, stratified (5-10 mm thick beds), weak reaction to HCl, contact abrupt w/:		81
82		MCF-32A-82, MCF-32A-82-FD, pH = 8.58					82
83							83
84	Run #10						84
85							85
86				ML	85': ML: Light brown (7.5YR 6/3) SILT (~90% silt, trace sand, ~10% gypsum as matrix cement), moist, weakly cemented, v. stiff, stratified (5-10 mm beds), weak reaction to HCl.		86
87							87
88							88
89							89
90							90
91	Run #11						91
92					...same as above.		92

GES	Job Name: BRC MONITOR WELLS	Boring No. MCF-32A
Job No. 20092509V1	Start: 6-9-09 / End:	Location: See p. 1.

Depth (feet)	REC	Sample Type	Blows/ 6 inches	USCS	Description	Pene-trometer	Depth (feet)
93	Run #11			ML	...same as above		93
94							94
95							95
96							96
97							97
98		MCF-32A-98, pH = 8.26		ML Wet	Light brown (7.5YR 6/3) sandy SILT (~50% silt, 40% sand (subrounded, poorly graded, ~20%ms, 80%fs), 10% gypsum as matrix cement), wet, weakly cemented, v. stiff, stratified (5mm beds), wk rxn to HCl, abrupt contact w/		98
99				CL			99
100							100
101							101
102							102
103		MCF-32A-102, pH = 8.77		ML Wet	98.5': CL: Light greenish gray (Gley1, 8/10Y) lean CLAY (~90% lean clay, trace sand, ~10% gypsum), moist, weakly cemented, v. stiff, stratified, weak reaction to HCl, 102': ML: Lt. brown (7.5YR 6/3) SILT w/sand (~80% silt, 15% sand (subrounded, poorly graded, ~100%fs), 5% gypsum), wet, weakly cemented in nodules,		103
104	Run #12			CL			104
105							105
106							106
107							107
108							108

GES	Job Name: BRC MONITOR WELLS	Boring No. MCF-32A
Job No. 20092509V1	Start: 6-9-09 / End:	Location: See p.1.

Depth (feet)	REC	Sample Type	Blows/ 6 inches	USCS	Description	Pene-trometer	Depth (feet)
109	Run # 12			CL	v. stiff, stratified, wk reaction to HCl, abrupt contact w/: 103.5': CL: Light greenish gray (Gley 1, 7/10Y) lean CLAY (~90% lean clay, trace sand, ~10% gypsum), moist, weakly cemented, v. stiff, stratified, weak reaction to HCl.		109
110							110
111							111
112							112
113					...past 110': light brown (7.5YR 6/4)		113
114							114
115					...1.0' thick bed of light greenish gray (Gley 1 7/10GY)		115
116							116
117	Run #13			wet ML / CL	117', 118'-120': ML: Light brown (7.5YR 6/4) sandy SILT (~60% silt, 30% sand (subrounded, poorly graded, ~20% ms, 80% fs), 10% gypsum as clear subhedral crystals and matrix cement), wet, stratified (1" thick beds), weak reaction to HCl, sequence generally coarsens downward, w/ basal SM layers deposited directly above CL beds.		117
118		MCF-32A-118, pH=8.80		ML wet			118
119							119
120							120 6-10-09 6-11-09
121				CL			121
122							122
123							123
124					...past 120': light greenish gray		124

GES	Job Name: BRC MONITOR WELLS	Boring No. MCF-32A
Job No. 20092509V1	Start: 6-9-09 / End:	Location: See p.1

Depth (feet)	REC	Sample Type	Blows/ 6 inches	USCS	Description	Pene-trometer	Depth (feet)
125	Run #4			CL	(Gley 1, 8/10Y), strong reaction to HCl, contact gradational with:		125
126				CH	125': CH: Bluish gray (Gley 2, 6/10B) fat CLAY (~75% fat clay, trace sand, ~25% gypsum as 2" subhedral, randomly-oriented, clouded crystals and matrix cement, ~5% black, carbonaceous organic matter), moist, weakly cemented, v. stiff, stratified (0.25"-0.5' beds), weak reaction to HCl; strong H_2S odor.		126
127							127
128							128
129							129
130							130
131	Run #5				...128': light olive brown (2.5Y, 5/4).		131
132							132
133					...129': light greenish gray (Gley 1, 7/5GY) with irregular mottled masses of greenish gray (Gley 1, 6/10GY) organic matter.		133
134							134
135					...to 138.5': dark greenish gray (Gley 1, 4/10Y), ~20% carbonaceous matter, trace pyrite, abrupt contact w/:		135
136							136
137							137
138							138
139				ML	Grayish brown (2.5Y 5/2) sandy SILT (~70% silt, ~25% sand (subrounded, poorly		139
140							140

GES	Job Name: BRC MONITOR WELLS	Boring No. MCF-32A
Job No. 20092509V1	Start: 6-9-09 / End:	Location: See p.1.

Depth (feet)	REC	Sample Type	Blows/ 6 inches	USCS	Description	Pene-trometer	Depth (feet)
141	Run #16			ML	graded, ~20%ms, 80%fs), 5% gypsum as matrix cement),		141
142				CL	moist, v. stiff, laminated (2-5mm thick beds), weak reaction to HCl.		142
143					141'-144': CL: Light greenish gray (Gley 1, 7/5GY) lean		143
144					CLAY (~80% lean clay, trace		144
145				ML Wet	sand, ~20% gypsum as cs-sized grains), moist, v. stiff,		145
146					stratified (1"-2" thick beds), weak reaction to HCl, abrupt		146
147		MCF-32A-147			contact w/: 144': ML: Dark grayish		147
148	Run #16	MCF-32A-147-MS/MSD			brown (2.5Y 4/2) SILT w/sand (~80% silt, ~20% sand		148
149		pH = 8.52			(subrounded, poorly graded, ~100%fs), wet (along beds), v.		149
150					stiff, laminated (1mm-4mm laminae), weak reaction to		150
151					HCl, grades into:		151
152				ML wet	Light gray (2.5Y 7/1) sandy SILT (~60% silt, 40% sand		152
153					(subrounded, poorly graded, ~5%ms, 95%fs)), wet, v.		153
154					stiff, stratified (1"-0.5' beds), coarsens downward into a		154
155		MCF-32A-155, pH = 8.37			basal SP-SM layer before abrupt contact w/ next interval.		155
156				CL	Light greenish gray (Gley 1, 7/10G)		156

GES	Job Name: BRC MONITOR WELLS	Boring No. MCF-32A
Job No. 20092509 V1	Start: 6-9-09 / End:	Location: See p.1.

Depth (feet)	REC	Sample Type	Blows/ 6 inches	USCS	Description	Pene-trometer	Depth (feet)
157	Run #17			CL	lean CLAY (~85% lean clay, trace sand, ~15% gypsum as clear cs-sized crystals and matrix cement), moist, weakly cemented, v. stiff, stratified (0.5' thick beds), weak reaction to HCl, gradational contact w/:		157
158							158
159							159
160							160
161							161
162	At Run #18			CH	Light greenish gray (Gley 1, 7/10GY) w/ layers greenish gray (Gley 1, 6/10GY) fat CLAY (~85% fat clay, trace sand, ~10% gypsum, ~5% organic matter), moist, v. stiff, laminated (1mm-5 mm laminae), weak reaction to HCl.		162
163							163
164							164
165							165
166							166
167							167
168					...mottled dark greenish gray (Gley 1, 4/10Y).		168
169					...light brown (7.5YR 6/4).		169
170							170
171	Run #19				...light greenish gray (Gley 1 7/5GY), ~10% organic matter, strong H_2S decay odor.		171
172							172