FINAL REPORT

Volume I of III
Main Report
Appendices A-B

CAREFREE DRAINAGE MASTER PLAN

Prepared for

Flood Control District of Maricopa County
2801 West Durango Street
Phoenix, AZ 85009

CONTRACT NO: FCD 2000C037

Prepared by

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September 2003

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Registered Professional Engineer (Civil)
CERTIFICATE NO.
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TONY A.
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ARIZONA, U.S.A.

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- Literature Review for the Carefree Drainage Master Plan
- Carefree Drainage Master Plan - Ecological Assessment
- Carefree Drainage Improvements Permitting Summary

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SECTION 1

Introduction and Background

The Flood Control District of Maricopa County (FCDMC) contracted with CH2M HILL in June 2001 to complete the Carefree Drainage Master Plan (DMP) study. The Carefree DMP study area encompasses the entire Town of Carefree, Arizona (Town), which contains approximately 20 square miles, as shown in Figure 1. The purpose of the Carefree DMP is to identify ways to reduce the potential damage to property or loss of life from storm runoff. The study includes identifying existing and potential flooding problems within the Town, evaluating, gathering, and distributing information regarding flooding, sedimentation, and erosion problems, and generating preliminary plans for several key locations.

The preferred flood control management alternative is a nonstructural plan, which defines a corridor and maintains the natural washes within this corridor. One of the goals of this DMP is to preserve the wash conditions to the largest extent possible. Where nonstructural management is not possible, such as in areas that have existing development, low impact design alternatives are preferred.

The Carefree DMP should be used as a tool for development and growth in the area, to minimize impacts of urbanization to the drainage features of the Town. This report identifies improvement projects as well as management practices.

The final *Data Collection Report, CH2M HILL, 2002* for the study, which documents existing conditions in the Town and generated runoff flow numbers, was completed in November 2002. This DMP report contains the following sections and appendices.

This report is organized as follows:

Volume I — Main Report

- Section 1. Introduction and Background
- Section 2. Existing Problems and Constraints
- Section 3. Solutions to Drainage Problems
- Section 4. Proposed Improvements
- Section 5. Floodplain Delineation
- Section 6. Supplemental Documents
- Section 7. Public Involvement
- Section 8. References

Appendices

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- Carefree Drainage Improvements Permitting Summary

Appendix B Carefree Drainage Master Plan Sedimentation Alternative Analysis Level 1 and Level 2 (JE Fuller)

Volume II — Appendix C

Appendix C Flood Accessibility Emergency Routes Evaluation

Volume III — Appendices D through H

Appendix D Engineering Design Guidelines

Appendix E Inspection, Maintenance, & Monitoring Plan

Appendix F Implementation and Funding Plan

Appendix G Improvement Cost Information

Appendix H Floodplain Delineation

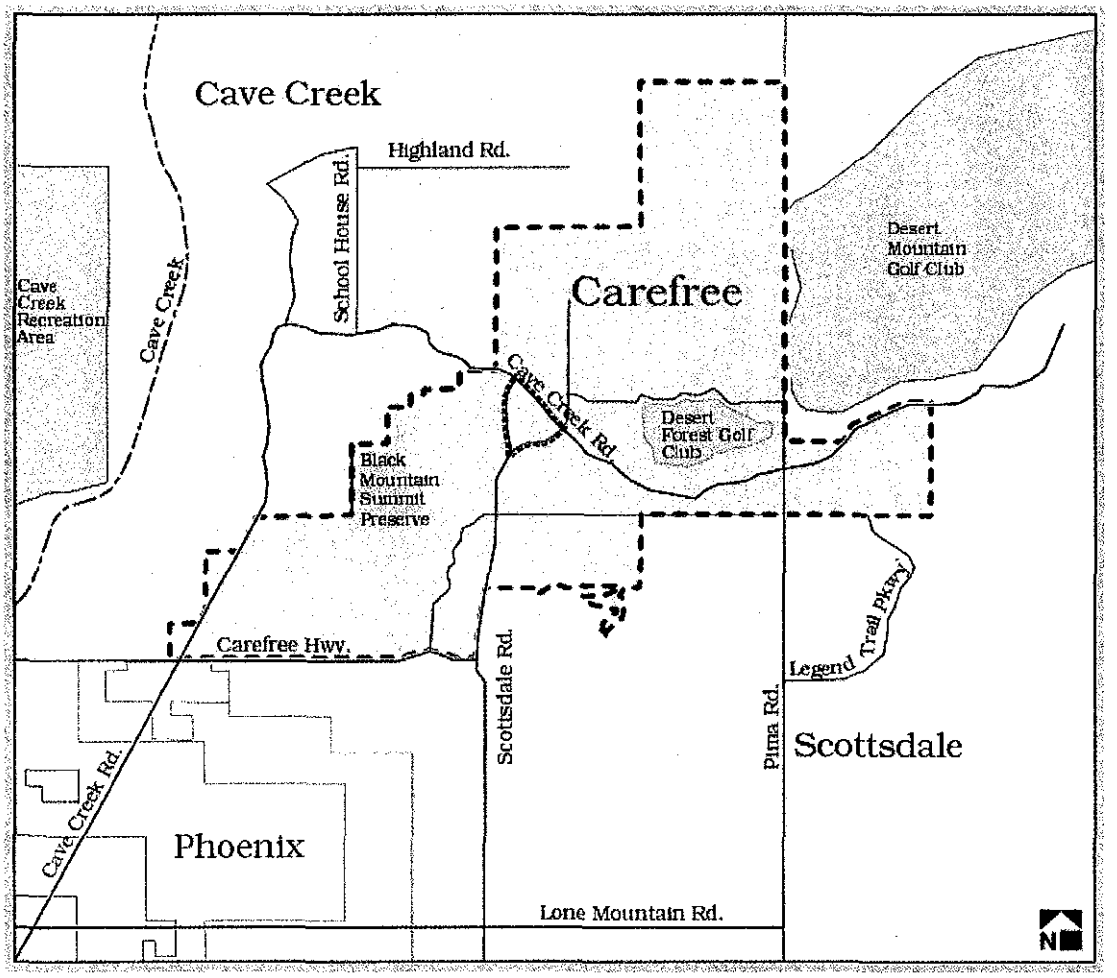


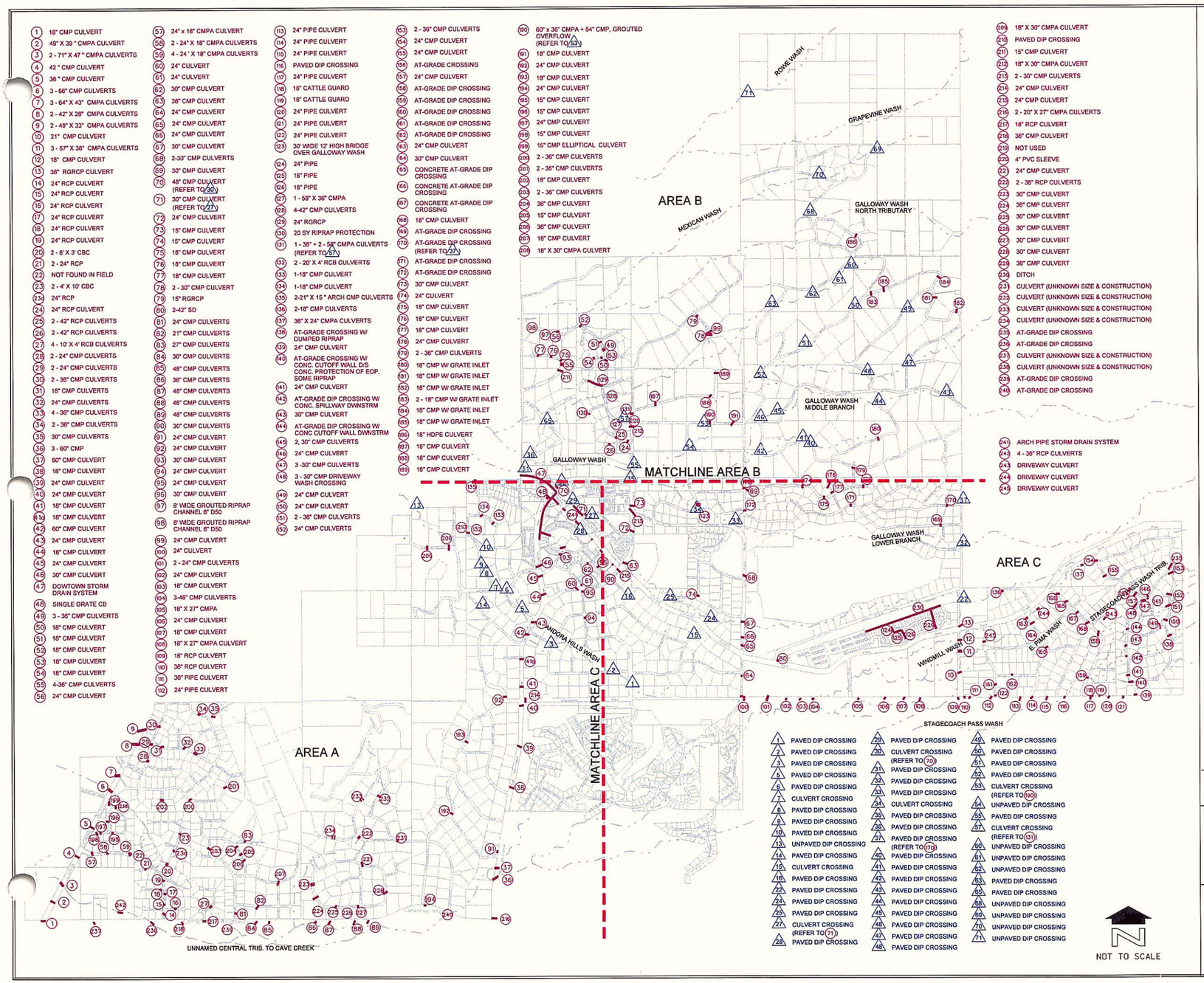
FIGURE 1. STUDY AREA

1.1 Data Collection Report

The final *Data Collection Report – Carefree Drainage Master Plan* was completed in November 2002 (with Addendum dated February 2003). The report includes a survey of existing drainage features, analysis of existing conditions, and hydrology models for most of the Town for the 10-year and 100-year frequencies, the 6- and 24-hour durations, and both existing and future conditions.

The *Data Collection Report* contains comprehensive hydrology for the Town. The runoff estimations contained in the report should be used for all subsequent drainage analyses and design in the Town, including those for new development and the design of improvements. Using this information will ensure that the Town begins developing a comprehensive drainage system.

The inventory of existing drainage structures that is included in the *Data Collection Report* is included as Figure 2 in this DMP for reference. Figure 3 in this DMP shows identified problem areas.



1 18" CMP CULVERT
2 49" X 39 " CMPA CULVERT
3 2 - 71" X 47 " CMPA CULVERTS
4 42 " CMP CULVERT
5 36 " CMP CULVERT
6 3 - 66" CMP CULVERTS
7 3 - 64" X 43" CMPA CULVERTS
8 2 - 42" X 29" CMPA CULVERTS
9 2 - 49" X 33" CMPA CULVERTS
10 21" CMP CULVERT
11 3 - 57" X 38" CMPA CULVERTS
12 18" CMP CULVERT
13 36" RGRCP CULVERT
14 24" RCP CULVERT
15 24" RCP CULVERT
16 24" RCP CULVERT
17 24" RCP CULVERT
18 24" RCP CULVERT
19 24" RCP CULVERT
20 2 - 8' X 3' CBC
21 2 - 24" RCP
22 NOT FOUND IN FIELD
23 2 - 4' X 10' CBC
23a 24" RCP
24 24" RCP CULVERT
25 2 - 42" RCP CULVERTS
26 2 - 42" RCP CULVERTS
27 4 - 10' X 4' RCB CULVERTS
28 2 - 24" CMP CULVERTS
29 2 - 24" CMP CULVERTS
30 2 - 36" CMP CULVERTS
31 18" CMP CULVERTS
32 24" CMP CULVERTS
33 4 - 36" CMP CULVERTS
34 2 - 36" CMP CULVERTS
35 30" CMP CULVERTS
36 3 - 60" CMP
37 60" CMP CULVERT
38 18" CMP CULVERT
39 24" CMP CULVERT
40 24" CMP CULVERT
41 18" CMP CULVERT
41a 18" CMP CULVERT
42 60" CMP CULVERT
43 24" CMP CULVERT
44 18" CMP CULVERT
45 24" CMP CULVERT
46 30" CMP CULVERT
47 DOWTOWN STORM DRAIN SYSTEM
48 SINGLE GRATE CB
49 3 - 36" CMP CULVERTS
50 18" CMP CULVERT
51 18" CMP CULVERT
52 18" CMP CULVERT
53 18" CMP CULVERT
54 18" CMP CULVERT
55 4-36" CMP CULVERTS
56 24" CMP CULVERT
57 24" x 18" CMPA CULVERT
58 2 - 24" X 18" CMPA CULVERTS
59 4 - 24 " X 18" CMPA CULVERTS
60 24" CULVERT
61 24" CULVERT
62 30" CMP CULVERT
63 36" CMP CULVERT
64 24" CMP CULVERT
65 24" CMP CULVERT
66 24" CMP CULVERT
67 30" CMP CULVERT
68 2-30" CMP CULVERTS
69 30" CMP CULVERT
70 48" CMP CULVERT (REFER TO 30)
71 30" CMP CULVERT (REFER TO 27)
72 24" CMP CULVERT
73 15" CMP CULVERT
74 15" CMP CULVERT
75 18" CMP CULVERT
76 18" CMP CULVERT
77 18" CMP CULVERT
78 2 - 30" CMP CULVERT
79 15" RGRCP
80 2-42" SD
81 24" CMP CULVERTS
82 21" CMP CULVERTS
83 27" CMP CULVERTS
84 30" CMP CULVERTS
85 48" CMP CULVERTS
86 36" CMP CULVERTS
87 48" CMP CULVERTS
88 48" CMP CULVERTS
89 48" CMP CULVERTS
90 30" CMP CULVERTS
91 24" CMP CULVERT
92 24" CMP CULVERT
93 30" CMP CULVERT
94 24" CMP CULVERT
95 24" CMP CULVERT
96 30" CMP CULVERT
97 8' WIDE GROUTED RIPRAP CHANNEL 8" D50
98 8' WIDE GROUTED RIPRAP CHANNEL 6" D50
99 24" CMP CULVERT
100 24" CULVERT
101 2 - 24" CMP CULVERTS
102 24" CMP CULVERT
103 18" CMP CULVERT
104 3-48" CMP CULVERTS
105 18" X 27" CMPA
106 24" CMP CULVERT
107 18" CMP CULVERT
108 18" X 27" CMPA CULVERT
109 18" RCP CULVERT
110 36" RCP CULVERT
111 36" PIPE CULVERT
112 24" PIPE CULVERT
113 24" PIPE CULVERT
114 24" PIPE CULVERT
115 24" PIPE CULVERT
116 PAVED DIP CROSSING
117 24" PIPE CULVERT
118 18" CATTLE GUARD
119 18" CATTLE GUARD
120 24" PIPE CULVERT
121 24" PIPE CULVERT
122 24" PIPE CULVERT
123 30' WIDE 12' HIGH BRIDGE OVER GALLOWAY WASH
124 24" PIPE
125 18" PIPE
126 18" PIPE
127 1 - 58" X 36" CMPA
128 4-42" CMP CULVERTS
129 24" RGRCP
130 20 SY RIPRAP PROTECTION
131 1 - 36" + 2 - 58" CMPA CULVERTS (REFER TO 67)
132 2 - 20' X 4' RCB CULVERTS
133 1-18" CMP CULVERT
134 1-18" CMP CULVERT
135 2-21" X 15 " ARCH CMP CULVERTS
136 2-18" CMP CULVERTS
137 36" X 24" CMPA CULVERTS
138 AT-GRADE CROSSING W/ DUMPED RIPRAP
139 24" CMP CULVERT
140 AT-GRADE CROSSING W/ CONC. CUTOFF WALL D/S CONC. PROTECTION OF EOP, SOME RIPRAP
141 24" CMP CULVERT
142 AT-GRADE DIP CROSSING W/ CONC. SPILLWAY DWNSTRM
143 30" CMP CULVERT
144 AT-GRADE DIP CROSSING W/ CONC CUTOFF WALL DWNSTRM
145 2, 30" CMP CULVERTS
146 24" CMP CULVERT
147 3 -30" CMP CULVERTS
148 3 - 30" CMP DRIVEWAY WASH CROSSING
149 24" CMP CULVERT
150 24" CMP CULVERT
151 2 - 36" CMP CULVERTS
152 24" CMP CULVERTS
153 2 - 36" CMP CULVERTS
154 24" CMP CULVERT
155 24" CMP CULVERT
156 AT-GRADE CROSSING
157 24" CMP CULVERT
158 AT-GRADE DIP CROSSING
159 AT-GRADE DIP CROSSING
160 AT-GRADE DIP CROSSING
161 AT-GRADE DIP CROSSING
162 AT-GRADE DIP CROSSING
163 24" CMP CULVERT
164 30" CMP CULVERT
165 CONCRETE AT-GRADE DIP CROSSING
166 CONCRETE AT-GRADE DIP CROSSING
167 CONCRETE AT-GRADE DIP CROSSING
168 18" CMP CULVERT
169 AT-GRADE DIP CROSSING
170 AT-GRADE DIP CROSSING (REFER TO 37)
171 AT-GRADE DIP CROSSING
172 AT-GRADE DIP CROSSING
173 30" CMP CULVERT
174 24" CULVERT
175 18" CMP CULVERT
176 18" CMP CULVERT
177 18" CMP CULVERT
178 24" CMP CULVERT
179 2 - 36" CMP CULVERTS
180 18" CMP W/ GRATE INLET
181 18" CMP W/ GRATE INLET
182 18" CMP W/ GRATE INLET
183 2 - 18" CMP W/ GRATE INLET
184 18" CMP W/ GRATE INLET
185 18" CMP W/ GRATE INLET
186 18" HDPE CULVERT
187 18" CMP CULVERT
188 18" CMP CULVERT
189 18" CMP CULVERT
190 60" x 35" CMPA + 54" CMP, GROUTED OVERFLOW (REFER TO 53)
191 18" CMP CULVERT
192 24" CMP CULVERT
193 18" CMP CULVERT
194 24" CMP CULVERT
195 15" CMP CULVERT
196 15" CMP CULVERT
197 24" CMP CULVERT
198 15" CMP CULVERT
199 15" CMP ELLIPTICAL CULVERT
200 2 - 36" CMP CULVERTS
201 2 - 36" CMP CULVERTS
202 18" CMP CULVERT
203 2 - 36" CMP CULVERTS
204 36" CMP CULVERT
205 15" CMP CULVERT
206 36" CMP CULVERT
207 18" CMP CULVERT
208 18" X 30" CMPA CULVERT
209 18" X 30" CMPA CULVERT
210 PAVED DIP CROSSING
211 15" CMP CULVERT
212 18" X 30" CMPA CULVERT
213 2 - 30" CMP CULVERTS
214 24" CMP CULVERT
215 24" CMP CULVERT
216 2 - 20" X 27" CMPA CULVERTS
217 18" RCP CULVERT
218 36" CMP CULVERT
219 NOT USED
220 4" PVC SLEEVE
221 24" CMP CULVERT
222 2 - 36" RCP CULVERTS
223 30" CMP CULVERT
224 36" CMP CULVERT
225 30" CMP CULVERT
226 30" CMP CULVERT
227 30" CMP CULVERT
228 30" CMP CULVERT
229 36" CMP CULVERT
230 DITCH
231 CULVERT (UNKNOWN SIZE & CONSTRUCTION)
232 CULVERT (UNKNOWN SIZE & CONSTRUCTION)
233 CULVERT (UNKNOWN SIZE & CONSTRUCTION)
234 CULVERT (UNKNOWN SIZE & CONSTRUCTION)
235 AT-GRADE DIP CROSSING
236 AT-GRADE DIP CROSSING
237 CULVERT (UNKNOWN SIZE & CONSTRUCTION)
238 CULVERT (UNKNOWN SIZE & CONSTRUCTION)
239 AT-GRADE DIP CROSSING
240 AT-GRADE DIP CROSSING
241 ARCH PIPE STORM DRAIN SYSTEM
242 4 - 36" RCP CULVERTS
243 DRIVEWAY CULVERT
244 DRIVEWAY CULVERT
245 DRIVEWAY CULVERT

1 PAVED DIP CROSSING
2 PAVED DIP CROSSING
3 PAVED DIP CROSSING
5 PAVED DIP CROSSING
6 PAVED DIP CROSSING
7 CULVERT CROSSING
8 PAVED DIP CROSSING
9 PAVED DIP CROSSING
10 PAVED DIP CROSSING
13 UNPAVED DIP CROSSING
14 PAVED DIP CROSSING
15 CULVERT CROSSING
16 PAVED DIP CROSSING
22 PAVED DIP CROSSING
24 PAVED DIP CROSSING
25 PAVED DIP CROSSING
27 CULVERT CROSSING (REFER TO 71)
28 PAVED DIP CROSSING
29 PAVED DIP CROSSING
30 CULVERT CROSSING (REFER TO 70)
31 PAVED DIP CROSSING
32 PAVED DIP CROSSING
33 PAVED DIP CROSSING
34 CULVERT CROSSING
35 PAVED DIP CROSSING
36 PAVED DIP CROSSING
37 PAVED DIP CROSSING (REFER TO 170)
40 PAVED DIP CROSSING
41 PAVED DIP CROSSING
42 PAVED DIP CROSSING
43 PAVED DIP CROSSING
44 PAVED DIP CROSSING
45 PAVED DIP CROSSING
46 PAVED DIP CROSSING
47 PAVED DIP CROSSING
48 PAVED DIP CROSSING
49 PAVED DIP CROSSING
50 PAVED DIP CROSSING
51 PAVED DIP CROSSING
52 PAVED DIP CROSSING
53 CULVERT CROSSING (REFER TO 190)
54 UNPAVED DIP CROSSING
55 PAVED DIP CROSSING
57 CULVERT CROSSING (REFER TO 131)
60 UNPAVED DIP CROSSING
61 UNPAVED DIP CROSSING
62 UNPAVED DIP CROSSING
63 PAVED DIP CROSSING
65 PAVED DIP CROSSING
66 UNPAVED DIP CROSSING
68 UNPAVED DIP CROSSING
69 UNPAVED DIP CROSSING
70 UNPAVED DIP CROSSING
71 UNPAVED DIP CROSSING

LEGEND

53 DRAINAGE FEATURE AND NUMBER IDENTIFIER
A DRAINAGE FEATURE AND NUMBER IDENTIFIER FROM J.E. FULLER (APPENDIX C OF REPORT)

NOTES

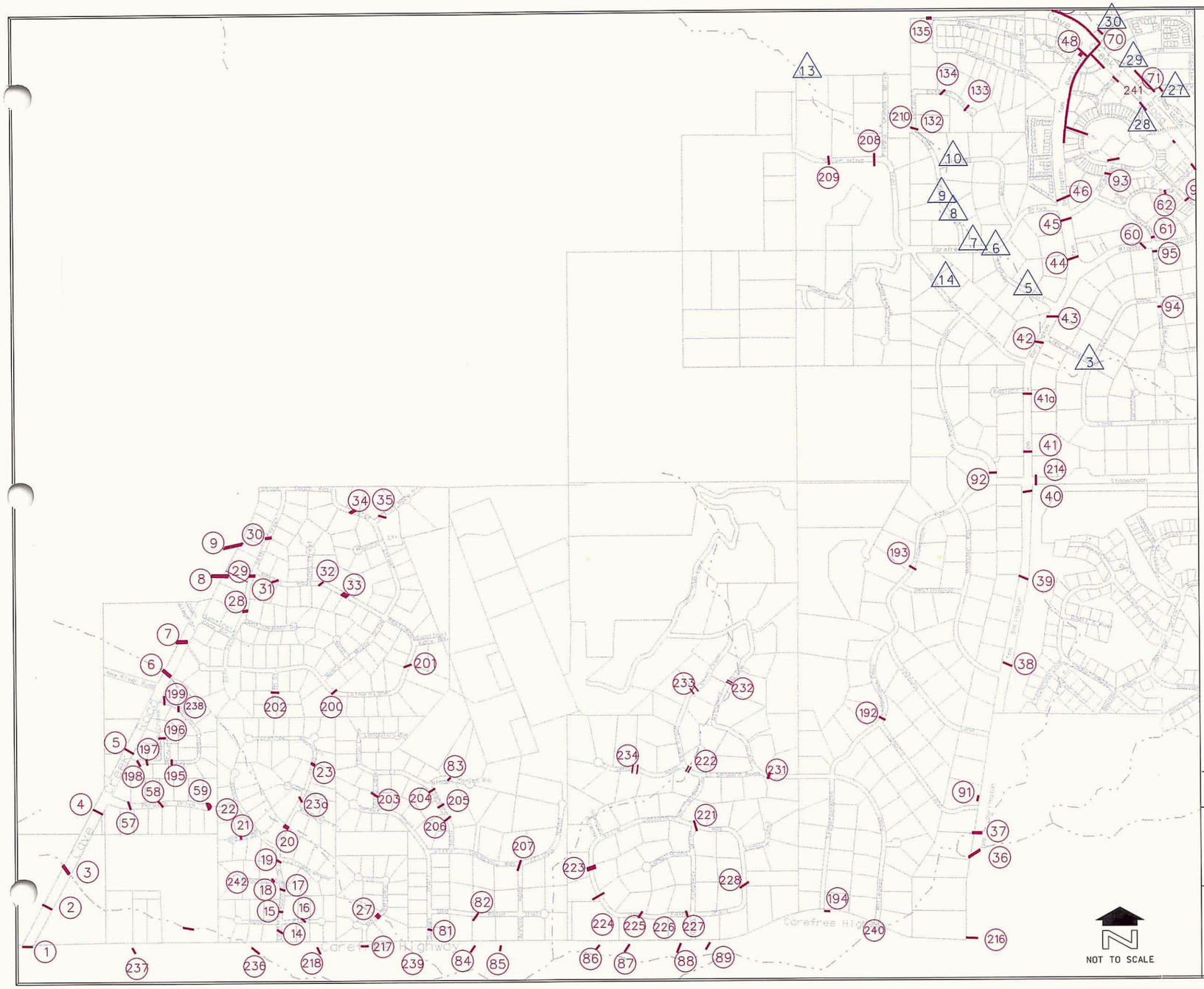
CULVERT LOCATIONS TAKEN FROM VARIOUS IMPROVEMENT PLANS, AS-BUILT PLANS, REPORTS, AND FIELD SURVEYS.

ACRONYMNS:
CBC = CONCRETE BOX CULVERT
CMP = CORREGATED METAL PIPE
CMPA = CORREGATED METAL PIPE ARCH
HDPE = HIGH DENSITY POLYETHYLENE
PVC = POLYMNYL CHLORIDE
RCP = REINFORCED CONCRETE PIPE
RGRCP = RUBBER GASKETED REINFORCED CONCRETE PIPE

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

CH2MHILL

FIGURE 2 - EXISTING FACILITIES
CAREFREE DRAINAGE MASTER PLAN
F.C.D. CONTRACT NO. 2000C037



LEGEND

DRAINAGE FEATURE AND NUMBER IDENTIFIER

DRAINAGE FEATURE AND NUMBER IDENTIFIER FROM J.E. FULLER (APPENDIX C OF REPORT)

NOTES

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

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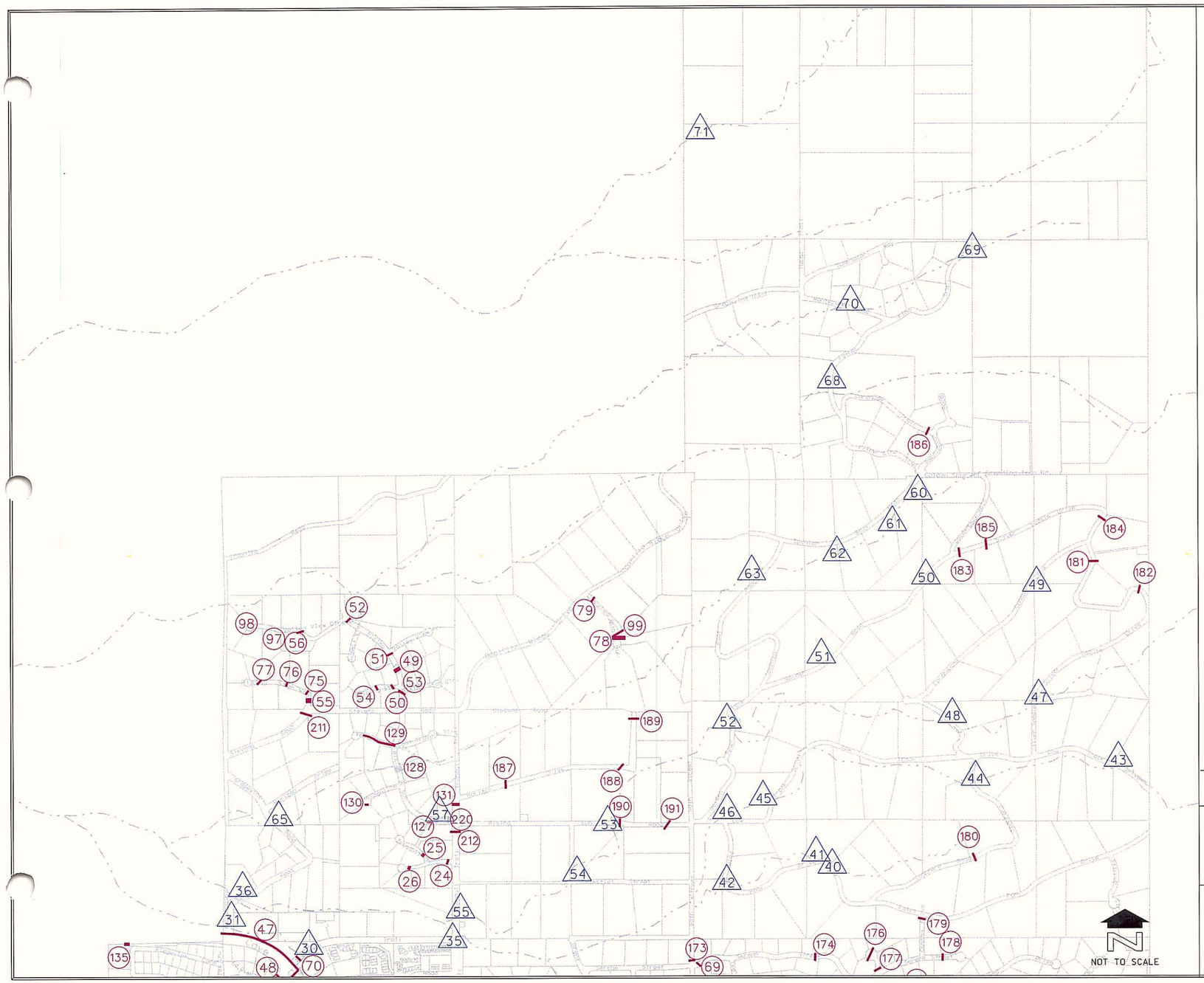
FIGURE 2A - EXISTING FACILITIES

CAREFREE DRAINAGE MASTER PLAN

F.C.D. CONTRACT NO. 2000C037



LEGEND

DRAINAGE FEATURE AND NUMBER IDENTIFIER

DRAINAGE FEATURE AND NUMBER IDENTIFIER FROM J.E. FULLER (APPENDIX C OF REPORT)

NOTES

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

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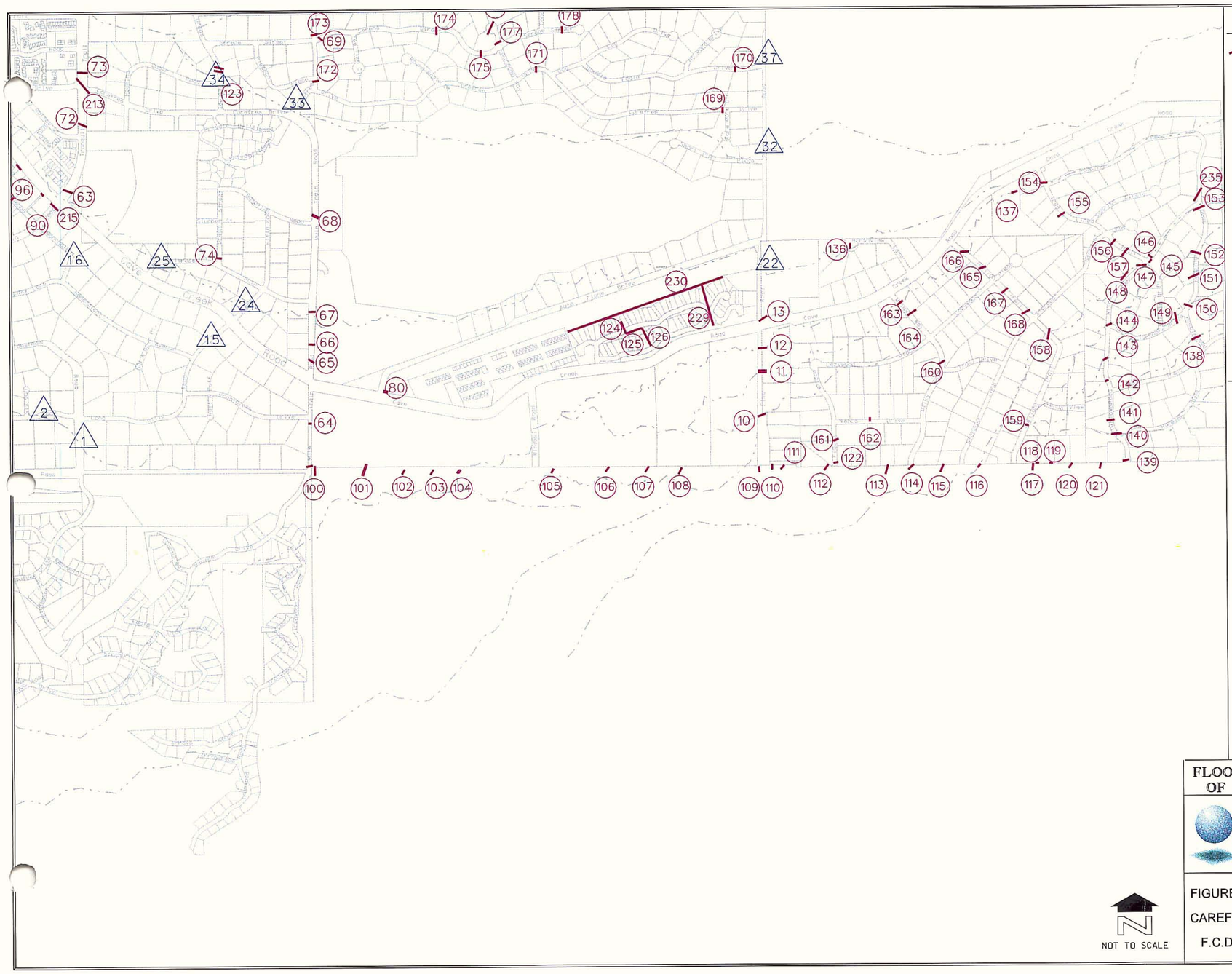
FIGURE 2B - EXISTING FACILITIES

CAREFREE DRAINAGE MASTER PLAN

F.C.D. CONTRACT NO. 2000C037



LEGEND

DRAINAGE FEATURE AND NUMBER IDENTIFIER

DRAINAGE FEATURE AND NUMBER IDENTIFIER FROM J.E. FULLER (APPENDIX C OF REPORT)

NOTES

NOT TO SCALE

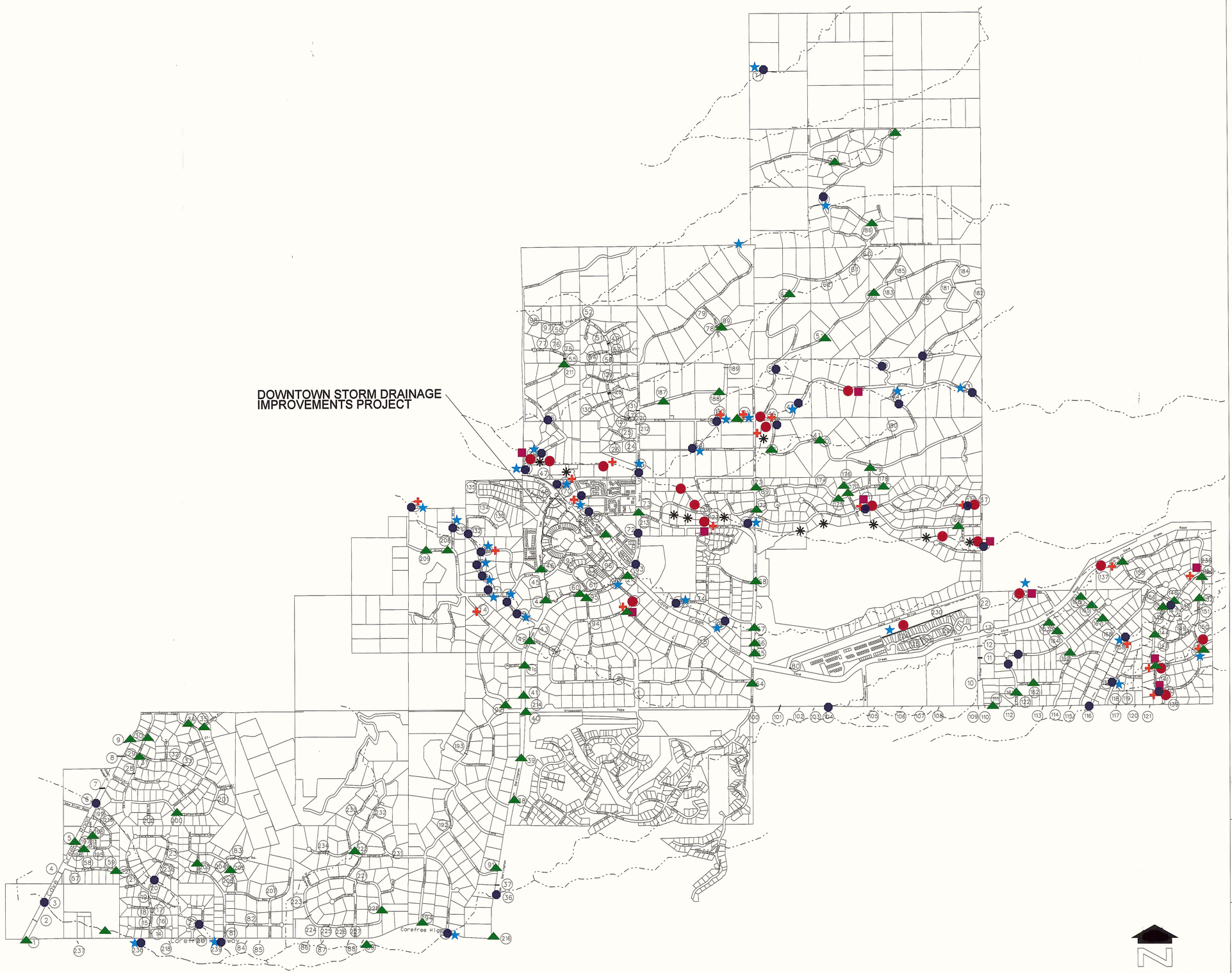
FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

CH2MHILL

FIGURE 2C - EXISTING FACILITIES

CAREFREE DRAINAGE MASTER PLAN

F.C.D. CONTRACT NO. 2000C037



LEGEND

- ★ RECENT FLOODING REPORTED
- ✚ SEDIMENTATION
- ● EROSION
- ■ DAMAGED FACILITY
- ▲ FLOW OVER ROAD (PASSABLE, >15 cfs)
- ✳ EROSION SETBACK ENCROACHMENTS
- ● IMPASSABLE DURING 100-YR EVENT (>1' DEPTH OR D x V > 10)

NOTES

NOT TO SCALE

FLOOD CONTROL DISTRICT
OF MARICOPA COUNTY

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FIGURE 3
IDENTIFIED PROBLEM AREAS
CAREFREE DRAINAGE MASTER PLAN
F.C.D. CONTRACT NO. 2000C037

mtgp&c.dgn 10-APR-2003

SECTION 2

Existing Problems and Constraints

The following is a discussion of the general problems and constraints associated with the drainage features within the Town. The preferred flood control management alternative is the non-structural plan, which defines a corridor and maintains the natural washes within this corridor, given portions of the watershed have been modified by urban development. However, due to the presence of development, this is not always feasible.

2.1 Existing Problem Sites

The Town has approximately 250 man-made drainage features, as inventoried in the *Data Collection Report* and shown in Figure 2 of this DMP. Of these, approximately 71 locations were determined to be "problematic" and had one or more of the following characteristics:

- Recent flooding reported
- Localized or regional sedimentation
- Localized or regional erosion
- Damaged facility
- Undersized facility
- Flow over the roadway during a storm runoff event
- Encroachment into erosion setbacks by structures*

*In the Town of Carefree, structures may be built within the erosion setback limits if designed to accommodate the scour depth of the wash. New construction within these limits is controlled by the Town and is reviewed on a case by case basis.

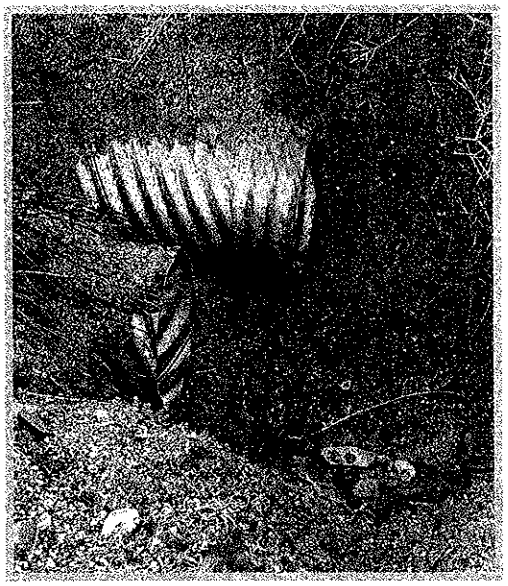

FIGURE 4. LOCALIZED EROSION AT UNPROTECTED CULVERT OUTLET

Figure 3 of this DMP contains a graphical representation of the problem sites, and Table 1 of this DMP contains specific information about each site. Appendix B of this DMP also contains a list of sedimentation and erosion problem areas.

2.1.1 Localized Drainage Issues

Many of the drainage issues within the Town can be considered nuisance problems, without immediate danger to loss of life or property damage. Additionally, some of the issues are considered localized, and affect only the immediate area surrounding the drainage feature. Figure 4 is an example of a local drainage issue. It demonstrates the damage caused by a lack of headwalls at existing culverts. At existing culverts where erosion is a problem headwalls should be added as funds are available and all new culverts should be designed with headwalls.

2.1.1.1. Erosion and Sedimentation

Localized erosion and sedimentation is common in most arid/semi-arid areas (Figure 4). The downstream end of culverts often have an area of erosion surrounding the outlet. Placing erosion outlet protection at downstream culvert outlets will prevent this from occurring. On the upstream side, undersized culverts will cause sediment deposition to occur. Due to the steep slopes that exist in Carefree, most of these conditions are localized, and only affect a few hundred feet, or less, on either side of the structure. Although the damage due to erosion is localized around the outlet, damage to upstream features such as roadways can occur.

Localized sedimentation and erosion is also evident at dip crossings (also referred to as "at-grade" crossings), where the wash flows over the roadway. As discussed below in the Regional Problems sections, these crossings can cause both localized and regional sediment deposition upstream and erosion downstream.

2.1.1.2. Damaged Facilities

Localized erosion also contributes to damage, particularly on the downstream side of culverts and at-grade crossings (Figure 5). Erosion protection measures not designed to current standards may not provide sufficient protection. If eroding now continued erosion could cause damage to roadways and private properties. Table 1 contains a list of the locations of damaged facilities.

FIGURE 5. DAMAGE TO DOWNSTREAM CUT-OFF WALL

2.1.2 Regional Drainage Issues

In addition to localized drainage problems, several regional problems exist. The presence of localized erosion, sedimentation or sub-standard structures sequentially occurring through a drainage reach often leads to a regional drainage problem. In addition to those items discussed below, information on some of the regional problems and processes can be found in the sedimentation reports found in Appendix H of the *Data Collection Report* (CH2M HILL, 2002).

2.1.2.1. Encroachment of development

Development in the Town has encroached into the natural 100-year floodplain of the Town's washes. Structures encroaching on erosion setbacks are to be designed to accommodate wash scour depths. Construction of permanent structures within the erosion setback zones is reviewed on a case by case basis by the Town. Prior to erosion setback zone establishment it was more common to place structures in these areas, putting structures at risk in the future due to the natural meandering of the

FIGURE 6. WATER OVER ROADWAY – PIMA ROAD NEAR SHORT PUTT PL.

washes. Active bank erosion is a natural occurrence in any riverine environment, whether arid, semi-arid or tropical. In some locations in Carefree bank erosion has been accelerated or retarded due to encroachment of development into the 100-year floodplain. Development within the floodplains may upset the sediment-carrying capabilities of the washes but it is not necessarily true that in all cases of floodplain encroachment the sediment carrying capacity or a wash's tendency to meander are affected by the development within the floodplain. Structures placed in low velocity areas outside the main channel may have little or no effect on the sediment carrying capacity of flood waters. Selective location of proposed improvements based on sound engineering judgement should be employed by the Town. Appendix B of this DMP contains further information on erosion setback policies and sedimentation effects of encroachment.

2.1.2.2. Roadway At-Grade Crossings and Undersized Drainage Facilities

The Town contains many at-grade crossings where water in a wash flows over the road during runoff events (Figure 6). It also has many crossings with culverts too small to convey all of the runoff from low frequency events.

It should be noted that it is inadvisable for motorists or pedestrians to attempt crossing any flooded roadway crossings, especially if the roadway surface in not visible through the entire flooded length of road. Flow depths and velocities are often difficult to assess visually and there may be potholes in the pavement caused by the flooding. Attempting to cross a flooded roadway may be dangerous.

Table 1
Identified Problem Areas
and Damaged Facilities

Map Number (Figure 2)	Location	Drainage Feature	Problem Description	Potential Problems	Number of Properties affected:	Public Safety Concern?*	100-year max. Flow	Current or Future Maintenance Issue?	Passable During 100-yr. Event?**	Frequency? (Flooding only)	Outside Jurisdiction or No Feasible Solution?	Private Project?	Solution Category***
240, 239, 236	Carefree Highway, in three locations	At Grade Dip Crossings (3)	Runoff flows over road at three locations, impassable during 100-year event	Cut off public access during 100-year event, potential damage to roadway	86	Yes	2447 cfs at Whileaway, 1833 cfs at Sunset Trail, 614 at Carefree Mtn Drive	Yes	No	Water over road during all rain events	Yes		NFS
JEF 32	Pima Road south of Short Putt	At Grade Dip Crossing	Flooding, and extensive damage of roadway section and adjacent property. Wash downstream has erosion of banks. Sediment deposition on road, impassable during 100-year event	Roadway damage, bank protection failure, potential private property damage, cut off access during flood events	11	Yes	1260 cfs (future)	Yes, would have to repair street frequently	No	Water over road during all rain events			F
JEF 32	Pima Road south of Short Putt	Bank Protection	Pruett Residence - potential reflective scour on left bank, home in former avulsive channel path, flow split around home (but outside the 100-year floodplain per most recent FIS)	Bank protection could fail, damage to residences and/or private improvements	1	No	1260 cfs (future)	Yes	N/A	N/A			P
JEF 32	Pima Road south of Short Putt	Bank Protection	Left Bank - gunite bank protection undercutting and flanking	Bank protection could fail, damage to residences and/or private improvements	1	No	1260 cfs (future)	Yes	N/A	N/A			P
JEF 32	Pima Road south of Short Putt	Bank Protection	Other residence on right bank, home above cut bank, no setback or erosion protection	Bank protection could fail, damage to residence and/or private improvements	1	No	1260 cfs (future)	Yes	N/A	N/A			P
20	Carefree Mountain Drive	Culvert	Impassable during 100-yr. Event	Cut off public access during 100-year event	24	Yes	1851 cfs (1125 capacity of culvert)	No, unless damage from overtopping	No	Impassable only during larger events (50-year or greater)		Yes	P
Between JEF 36 and JEF 35	Galloway Wash between Tranquil Trail and Scopa Road	Bank Protection	Unprotected earthen berm blocks former active braid, large headcut and active bank erosion, vertical cut banks, homes located in former avulsive channel path and former active channel braid, houses encroach into natural floodplain	Bank protection could fail, damage to residences and/or private improvements, flooding if earth berm fails	15	No	3900 to 4610 cfs (future)	Yes	N/A	N/A	Yes	Yes	NFS
132	Lazy Burro Road	Culvert	Impassable during 100-yr. Event, scour from overtopping and flanking	Cut off public access during 100-year event	7	Yes	2449 cfs (595 capacity of culvert)	No, unless damage from overtopping	No	Impassable only during larger events (50-year or greater)			F
Between JEF 34 and JEF 35	Residences along Galloway Wash on Rocking Chair Road	Bank Protection	Homes built within SS 5-96 Level 1 setback near cutbanks, homes built in former avulsion area, near aggrading reach	Cause erosion damage to private properties, aggrading could cause future flooding	7	No	2120 to 3900 cfs (future)	N/A	N/A	N/A	Yes	Yes	NFS
Between JEF 32 and JEF 36	Galloway Wash between Pima Road and Scopa Trail (entire wash reach in Carefree)	Bank Protection	Many homes within SS 5-96 Level 1 setback (33 - 59 ft.), subject to erosion. Lateral bank erosion anticipated during large floods.	Cause erosion damage to private properties	23	No	1210 to 4610 cfs (future)	Yes	N/A	N/A	Yes	Yes	NFS
142	Wildflower north of Quail	At Grade Dip Crossing	Severe damage to concrete erosion control on downstream side. In danger of failure.	Failure of concrete cutoff wall protection, roadway damage	2	Potential pavement failure	60 cfs (future)	Yes, would have to repair street periodically		Frequent, overtops anytime runoff is produced			F

Table 1
Identified Problem Areas
and Damaged Facilities

Map Number (Figure 2)	Location	Drainage Feature	Problem Description	Potential Problems	Number of Properties affected:	Public Safety Concern?*	100-year max. Flow	Current or Future Maintenance Issue?	Passable During 100-yr. Event?**	Frequency? (Flooding only)	Outside Jurisdiction or No Feasible Solution?	Private Project?	Solution Category***
146 to 153	Wildflower near Romping	Channel	Ditch forced to other side of street	Continued erosion, potential roadway damage, potential damage to adjacent lots	4	Yes, Very steep next to roadway, hazard, roadway flooding	912 cfs (future)	Yes, constructed gabion baskets, will need to keep repairing pavement	yes, but will flood street	Flooding only expected during big events (100-year or so)			F
	Cave Creek Road between Bloody Basin and Tom Darlington	Channel	Appears to have potential for flooding, debris in channel, apartment complex built adjacent to channel	Could cause flooding	6 properties, but many more residents due to apts.	No	500 cfs approx., (1/3 of GWW1_5)	No	N/A	Unknown	Yes, crosses several private properties, would require a regional solution	Yes, on several private properties	P, EF(debris)
140	Wildflower at Romping	At Grade Dip Crossing	Impassable during 100-year event, Erosion has caused structural damage to erosion control features (concrete, rock)	Continued erosion, potential roadway damage, sedimentation upstream	3	Yes, Flow over roadway (impassable)	912 cfs (future)	Yes, would have to repair street periodically	No	Frequent, overtops anytime runoff is produced			F
JEF 46	Cow Track at Paint Pony	At Grade Dip Crossing	Extensive sediment deposition upstream and along road, impassable during 100-year event, downstream scour, undercutting of grouted riprap along road embankment	Continued sediment deposition, cut off access during 100-year event	Interch. w/ JEF 35, fix one or the other, JEF 35 preferred	Yes	3090 cfs during 100-yr. Event	Yes, sediment must be removed after every rain event	No	Frequent, overtops anytime runoff is produced			F
123	Dream Street at Galloway Wash	Bridge	Dream Street Bridge - New bridge shows signs of aggradation. Several headcuts progressing upstream of bridge, downstream scour. Channel excavation oversteepened, devegetated, destabilized banks.	Continued sedimentation could cause adjacent lots to flood, positive drainage from upstream culvert cut off	8	Flooding in future more of property loss issue, no immediate. Safety risk	2218 cfs (future)	Town previously excavated in wash, only a temporary solution. 404 permit req'd to excavate. Not viable to maintain	Yes	Flooding only expected during big events (100-year or so)	Yes, aggradation is regional issue		NFS
123	Culvert near Footbridge	Culvert	Sedimentation/aggradation of wash - Culvert end buried by sediment (no positive drainage for culvert). Recent excavation of wash has exposed end of culvert and allowed for drainage. Aggradation in area expected to continue and eventually bury end of culvert	Continued sedimentation, no positive drainage for pipe	8	Flooding in future more of property loss issue, no immediate. Safety risk	2218 (future)	Yes, pipe end extended up periodically	Yes	Flooding only expected during big events (100-year or so)	Yes, aggradation is regional issue		NFS
JEF 13	36500 block of Nevermind Trail	At Grade Dip Crossing	Impassable during 100-year event, Sediment requires clearing after every storm	Sedimentation and flooding potential, cut off access during 100-year event	1	Yes	2460 cfs (future)	Yes	No	Runoff over road during all rain events	Yes, crossing in Cave Creek		NFS
JEF 5	E. Bivouac Trail	At Grade Dip Crossing	Impassable during 100-yr. Event	Cut off public access during 100-year event	4	Yes	810 cfs (future)	No	No	Runoff over road during all rain events			F
JEF 6	E. Bivouac Trail	At Grade Dip Crossing	Impassable during 100-yr. Event	Cut off public access during 100-year event	2	Yes	1180 cfs (future)	No	No	Runoff over road during all rain events			F
JEF 7	E. Carefree Drive	At Grade Dip Crossing	Impassable during 100-yr. Event	Cut off public access during 100-year event	3	Yes	1700 cfs (future)	No	No	Runoff over road during all rain events			F
JEF 8	N. Lazy Burro Rd.	At Grade Dip Crossing	Impassable during 100-yr. Event	Cut off public access during 100-year event	2	Yes	1780 cfs (future)	No	No	Runoff over road during all rain events			F
JEF 9	N. Lazy Burro Rd.	At Grade Dip Crossing	Impassable during 100-yr. Event	Cut off public access during 100-year event	2	Yes	1830 cfs (future)	No	No	Runoff over road during all rain events			F
JEF 10	N. Holiday Lane	At Grade Dip Crossing	Impassable during 100-yr. Event, upstream deposition and downstream scour at crossing	Cut off public access during 100-year event	3	Yes	1850 cfs (future)	No	No	Runoff over road during all rain events			F
JEF 12, 210	N. Piedra Grande Dr.	At Grade Dip Crossing	Impassable during 100-yr. Event	Cut off public access during 100-year event	3	Yes	1940 cfs (future)	No	No	Runoff over road during all rain events			F

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JEF 24	E. Long Rifle Road	At Grade Dip Crossing	Impassable during 100-yr. Event	Cut off public access during 100-year event	1, alt. access available	Yes	800 cfs (future)	No	No	Runoff over road during all rain events			F
JEF 25	E. Primrose Path	At Grade Dip Crossing	Impassable during 100-yr. Event	Cut off public access during 100-year event	1, alt. access available	Yes	840 cfs (future)	No	No	Runoff over road during all rain events			F
JEF 29	E. Hum Road	At Grade Dip Crossing	Impassable during 100-yr. Event, wash downstream of this crossing contains debris	Cut off public access during 100-year event	1, alt. access available	Yes	1100 cfs (future)	No	No	Runoff over road during all rain events			F
JEF 30 (70)	E. Sundance Trail	At Grade Dip Crossing	Impassable during 100-yr, event, sediment over road complaint	Cut off public access during 100-year event	1, alt. access available	Yes	1120 cfs (future)	No	No	Runoff over road during all rain events			F
JEF 31	N. Scopa Trail	At Grade Dip Crossing	Impassable during 100-yr. Event	Cut off public access during 100-year event	2	Yes	1340 cfs (future)	No	No	Runoff over road during all rain events			F
JEF 33	N. Carefree Drive	At Grade Dip Crossing	Impassable during 100-yr. Event, some upstream deposition and minor scour downstream	Cut off public access during 100-year event	1, alt. access available	Yes	1990 cfs (future)	No	No	Runoff over road during all rain events			F
JEF 35/JEF 55	N. Tranquil Trail	At Grade Dip Crossing	Impassable during 100-yr. Event	Cut off public access during 100-year event	50+, interch. w/ JEF 46	Yes	3900 cfs (future)	No	No	Runoff over road during all rain events			F
JEF 36	N. Scopa Trail	At Grade Dip Crossing	Impassable during 100-yr. Event, Downstream scour, undercutting road section, upstream block retaining wall flanking on upstream end	Cut off public access during 100-year event	3	Yes	4610 cfs (future)	Yes	No	Runoff over road during all rain events			F
JEF 43	E. Cow Track Drive	At Grade Dip Crossing	Impassable during 100-yr. Event	Cut off public access during 100-year event	10+, interch. w/ JEF 44 (JEF 44 preferred)	Yes	2880 cfs (future)	No	No	Runoff over road during all rain events			F
JEF 44	N. Sombrero Road	At Grade Dip Crossing	Impassable during 100-yr. Event	Cut off public access during 100-year event	10+, interch. w/ JEF 43 (this preferred)	Yes	2990 cfs (future)	No	No	Runoff over road during all rain events			F
JEF 45	E. Cow Track Drive	At Grade Dip Crossing	Impassable during 100-yr. Event	Cut off public access during 100-year event	2, only beneficial if fixing JEF 46	Yes	3080 cfs (future)	No	No	Runoff over road during all rain events			F
JEF 54	Celestial St & Dream Street	At Grade Dip Crossing	Impassable during 100-yr. Event	Cut off public access during 100-year event	0, alt. access available	Yes	820 cfs (future)	No	No	Runoff over road during all rain events			F
JEF 68	Father Kino Trail at Grapevine Wash	At Grade Dip Crossing	Impassable during 100-yr. Event	Cut off public access during 100-year event	52	Yes	6410 cfs (future)	No	No	Runoff over road during all rain events			F
190, JEF 53	Rising Sun Road	At Grade Dip Crossing and Culvert	Impassable during 100-year event, extreme grade differential between upstream and downstream of dip crossing. Road acts as dam. Nuisance flow culverts exist, with sedimentation compromising culvert capacity. Downstream channel bank protected with concrete, retaining walls, and rocks.	Cut off access during flood events, sedimentation upstream, erosion downstream, potential future roadway damage	50+, important for access plan	Yes	834 cfs (308 capacity of culverts)	Yes, would have to repair street and clean out sediment periodically	No	Flooding only expected during big events (100-year or so)			F
71 (JEF 27)	CAREFREE DRIVE	Culvert	Impassable during 100-yr. Event	Cut off public access during 100-year event	1, alt. access available	Yes	1100 cfs (48 capacity of culvert)	No, unless damage from overtopping	No	Impassable only during larger events (50-year or greater)			F
63	Tranquil Trail at Cave Creek Road	Culvert	Impassable during 100-yr. Event	Cut off public access during 100-year event	1, alt. access available	Yes	950 cfs (57 capacity of culvert)	No, unless damage from overtopping	No	Impassable only during larger events (50-year or greater)			F
Between JEF 32 and 33	Galloway Wash between Pima Road and Carefree Drive	Channel Bank	Golf Course has slumping failure of grass lined bank, flanking and scour of timber pole bank protection, lateral bank erosion at tennis club outside of bend with cutbanks, earthen berm at well site constructed of loose sand and is vulnerable to erosion	continued erosion causing damage to private property improvements	1	No	1210 to 1990 cfs (future)	Yes	N/A	N/A	Yes	Yes	P

Table 1
Identified Problem Areas
and Damaged Facilities

Map Number (Figure 2)	Location	Drainage Feature	Problem Description	Potential Problems	Number of Properties affected:	Public Safety Concern?*	100-year max. Flow	Current or Future Maintenance Issue?	Passable During 100-yr. Event?**	Frequency? (Flooding only)	Outside Jurisdiction or No Feasible Solution?	Private Project?	Solution Category***
3	Cave Creek Rd. north of Carefree Highway	Culvert	Impassable during 100-year event, sedimentation	Replace		Yes	566 cfs	Yes	No	Impassable only during larger events (25-year or greater)			F
6	Cave Creek Rd. near New River Rd.	Culvert	Impassable during 100-yr. Event	Cut off public access during 100-year event	50+, important for access plan, interch. w/ 36+37	Yes	2462 cfs (915 capacity of culvert)	Yes, sediment removal from culverts	No	Impassable only during larger events (50-year or greater)			F
159	Twilight Trail south of Venus View	At Grade Dip Crossing	Impassable during 100-yr. Event	Cut off public access during 100-year event	2	Yes	514 cfs (future)		No	Runoff over road during all rain events			F
138	Quail at Romping	At Grade Dip Crossing	Deposition upstream, erosion downstream. Erosion has been stabilized with riprap and concrete apron.	Continued erosion, potential roadway damage, sedimentation upstream	3	No, although flow over roadway (considered passable)	211 cfs (future)	Yes, have to periodically clean sediment off of road	Yes	Frequent, overtops anytime runoff is produced			F
170	Double Eagle west of Pima	At Grade Dip Crossing	Impassable during 100-yr. event. Sediment deposition upstream, erosion at downsteam. Protected with concrete and riprap, damage to concrete. Grade differential is approximately 8 feet.	Cut off public access during flood events, sedimentation upstream, erosion downstream, potential future roadway damage	52, this plus 169 interch. w/ 171 (171 preferred)	Yes	377 cfs (future)	Yes, sediment must removed after every runoff event	No	Frequent, overtops anytime runoff is produced			F
Downstream of 46	80th Street, Rising Sun, Cow Track, Paint Pony	Channel Bank	Gabions protect a house on a small ridge overlooking wash. Unstable, unvegetated slope above gabion bank protection, flanking of downstream end of gabion baskets.	Continued erosion causing damage to private property improvements	1	No, although could compromise private improvements	3090 cfs during 100-yr. Event	Yes, to private property owner	N/A	N/A		Yes	P
JEF 71	Unnamed, far northern part of town	At Grade Dip Crossing	Impassable during 100-yr. Event	Cut off public access during 100-year event	2	Yes	680 cfs (future)		No	Water over road during all rain events		Yes	P
171	Carefree west of Dog Leg	At Grade Dip Crossing	Impassable during 100-year event, extreme grade differential between upstream and downstream. Downstream protected by riprap lining, minor damage	Cut off public access during 100-year event	52, interch. w/ 169+170 (this one preferred)	No	276 cfs (future)	Yes, minor maintenance	Yes	Frequent, overtops anytime runoff produced			EF
158	Twilight south of Stardust	At Grade Dip Crossing	Sediment deposition	On-going maintenance	1	No	225 cfs (future)	Yes, sediment must removed after every rain event	Yes	Frequent, overtops anytime runoff produced			F
153	Wildflower at driveways	Culverts	Sedimentation has caused approximately 90% blockage of culverts across driveways	Continued sedimentation could block culverts completely, causing flooding of adjacent streets and driveways	3	No	84 cfs (73 capacity of unclogged culverts)	Yes, would have to periodically clean culverts	Yes	Frequent, sedimentation expected to continue clogging culverts		Yes	P
Downstream of 22	Airport runways	Channel	Wash through the airport causes flooding and erosion. Retention basins are being cleaned out, although they only retain a small portion of runoff due to development over natural state. Airport believes that church lot and retention has caused increased erosion.	Continued flooding and erosion at airport, potential private property damage	1 (Airport)	No, although could compromise airport runways	150 cfs	Yes, to private property owner	N/A	Problems during moderate to large events		Yes	P
136	Driveway at 8131 Northview Lane	Driveway Culvert	localized erosion	Continued erosion, potential damage to private driveway improvements	1	No	36 cfs (22 capacity of culvert)	Private driveway, would need periodic repair	Yes	N/A		Yes	P

Table 1
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137	Lutheran Church at Cave Creek Road	Driveway Culvert	Erosion undermining unprotected culvert end	Continued erosion, potential damage to private driveway improvements	1	No	47 cfs (41 capacity of culvert)	Private driveway, would need periodic repair	Yes	N/A		Yes	P
27	Los Reales Way	Culvert	Impassable during 100-yr. event	Cut off public access during flood events	12	Yes	2289 cfs	No	No	Flooding only expected during big events (100-year or so)		Yes	P
36	Tom Darlington	Culvert	Impassable during 100-yr. event	Cut off public access during flood events	4 to 50+, this plus 37 interch. W/ 6 (6 preferred)	Yes	1652 cfs	No	No	Flooding only expected during big events (100-year or so)			F
37	Tom Darlington	Culvert	Impassable during 100-yr. event	Cut off public access during flood events	4 to 50+, this plus 36 interch. W/ 6 (6 preferred)	Yes	552 cfs (future)	No	No	Flooding only expected during big events (100-year or so)			F
172	80th Street at Carefree Drive	Dip Crossing	Impassable during 100-yr. event	Cut off public access during flood events	0, alt. access available	Yes	301 cfs (future)	No	No	Flow over road during all events			F
JEF 48	Concho Lane	Dip Crossing	Impassable during 100-yr. event	Cut off public access during flood events	50+, interch. W/ JEF 47 or JEF 52 (JEF 52 preferred)	Yes, during flood events	344 cfs (future)	No	No	Flow over road during all events			F
JEF 47	Silver Saddle Drive	Dip Crossing	Impassable during 100-yr. event	Cut off public access during flood events	50+, interch. W/ JEF 48 or JEF 52 (JEF 52 preferred)	Yes, during flood events	302 cfs (future)	No	No	Flow over road during all events			F
104	Stagecoach Pass	Culvert	Impassable during 100-yr. event	Cut off public access during flood events	1, alt. access available	Yes, during flood events	338 cfs	No	No	Flooding only expected during big events (100-year or so)	Yes		NFS
116	Stagecoach Pass	At Grade Dip Crossing	Impassable during 100-yr. event	Cut off public access during flood events	13, interch. W/ 159 or 140	Yes, during flood events	1140 cfs (future)	No	No	Flow over road during all events	Yes		NFS
210	Piedra Grande Dr.	At Grade Dip Crossing	Impassable during 100-yr. event	Cut off public access during flood events	3	Yes, during flood events	2260 cfs	No	No	Flow over road during all events			F

Table 1
Identified Problem Areas
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Map Number (Figure 2)	Location	Drainage Feature	Problem Description	Potential Problems	Number of Properties affected:	Public Safety Concern?*	100-year max. Flow	Current or Future Maintenance Issue?	Passable During 100-yr. Event?**	Frequency? (Flooding only)	Outside Jurisdiction or No Feasible Solution?	Private Project?	Solution Category***
72	Tranquil Trail	Culvert	Impassable during 100-yr. event	Cut off public access during flood events	1, alt. access available	Yes, during flood events	546 cfs (future), 29 cfs capacity of culvert	No	No	Flooding expected during all events greater than approx. 2 yr. event., impassable at 50-yer. Event or greater			F
169	Carefree Drive at Foremore Circle	At Grade Dip Crossing	Impassable during 100-yr. event	Cut off public access during flood events	52, this plus 170 interch. w/ 171 (171 one preferred)	Yes, during flood events	410 cfs (future)	No	No	Flow over road during all events			F
JEF 52	Golden Spur Lane	At Grade Dip Crossing	Impassable during 100-yr. event	Cut off public access during flood events	50+, interch. W/ JEF 47 or JEF 48 (this one preferred)	Yes	747 cfs (future)	No	No	Flow over road during all events			F
JEF 65	Grapevine Road	At Grade Dip Crossing	Impassable during 100-yr. event	Cut off public access during flood events	12	Yes, during flood events	496 cfs	No	No	Flow over road during all events			F
183	Golden Spur Lane at Silver Saddle	Culvert	Upstream grate clogs, severe erosion at culvert end		1	No	5 cfs	Yes	Yes				F
68	Mule Train near Rambling Road	Culvert	Water over roadway			Yes	274 cfs	No	Yes	Flooding only expected during big events (100-year or so)			F
213	Carefree Drive at Tranquil Trail	Culvert	Water over roadway			Yes	292 cfs	No	Yes	Flooding only expected during big events (100-year or so)			F

Long-term degradation expected during large floods on entire Galloway Wash, North Galloway Wash, Grapevine Wash, and Rowe Wash

* = Imminent threat; loss of life or property

** = Road considered passable if depth x velocity is less than 10

*** = Solution Categories: EF=Easily Fixed with Maintenance Crew, P=Private Projects, NFS=No Feasible Solution, F=Fixable

Note: capacity of culvert taken at overtopping elevation

The *Flood Accessibility Emergency Routes Evaluation* report, attached as Appendix C of this DMP, discusses this problem in further detail and makes recommendations for improvements.

The roadway at-grade crossings can affect the sediment balance in the wash system. Elevated roadway sections act like dams, causing sediment to be deposited upstream of the roadway crossing, which in turn causes scour to occur at the downstream side of the crossing. Additionally, the water accelerates as it passes over the smooth, flat pavement surface, which also may cause scour to occur at the downstream end of the crossing. The roadways are often much flatter than the wash slope, which leads to a grade differential between the bottom of the wash and the edge of the pavement. The *Sediment Alternative Analyses* that are included in Appendix B of this DMP contain further information on the effect of the roadway crossings on the overall wash system.

2.1.2.3. Dynamic Wash Systems

The Town's washes generally flow from east to west. The major wash systems are: Galloway Wash, Galloway Wash Middle Branch (sometimes referred to as North Galloway Wash), Andora Hills Wash, Rowe Wash, and Grapevine Wash. The geomorphology of each was studied and presented in detail in Appendix H of the *Data Collection Report* (CH2M HILL, 2002). In general, the washes in the Town are of an unstable nature and sensitive to changes and encroachments. This is not unique to Carefree. This is the rule rather than the exception throughout arid and semi-arid environments in the southwestern U.S.. Appendix B of this DMP and Appendix H in the *Data Collection Report* (CH2M HILL, 2002) should be consulted for specific information about these washes.

Sediment

The bed material in the Town's washes tends to be composed of highly mobile sands, and sediment transport occurs through the washes (Figure 7). Desert washes in general are highly sensitive to changes in the sediment supply. There are indications that some of the existing sediment and/or erosion issues in the Town may be attributed to impacts to the sediment supply caused by activities such as grading and development in the upstream watershed. Therefore, it is important to monitor the activities in the upstream watersheds. The Maintenance and Monitoring Plan is intended to provide means of detecting and evaluating changes in the sediment levels within the Town before any significant damage is done. Development activities such as grading in this area typically results in a short-term increasing sediment supply and the construction of retention basins and increasing imperviousness results in long-term reduction of sediment supply. It is therefore suggested that the Town of Carefree establish a review process for all existing and future developments in the upstream watersheds to mitigate the impact to the Town's drainage system.

FIGURE 7. SEDIMENTATION AT CULVERT INLET

Aggradation, or rise in grade due to sediment deposition, tends to occur anywhere the sediment-carrying capability of the wash is reduced, such as at an undersized culvert

crossing, or upstream of an elevated at-grade roadway crossing where the geometry has been changed from the natural conditions. Erosion or degradation tends to occur downstream of culverts and roadway crossings. This is caused by the increased sediment-carry capability of the water due to increased velocities.

Lateral Channel Movement and Avulsions

The *Sediment Alternative Analyses* located in Appendix B of this DMP identified areas of active bank erosion throughout the Carefree DMP study area. Additionally, former wash channels that have been naturally abandoned (also called avulsive channels) exist next to the major washes. There are instances where development has occurred in these former wash channels. Minor shifts in sediment balances could cause water to once again occupy these abandoned channels, some of which have been protected by nonengineered berms. These berms are potentially subject to failure. For a detailed discussion of these areas, reference Appendix B of this DMP.

2.2 Constraints

There are constraints that limit the ability to implement some of the desired drainage improvements. For the purpose of this report, cost alone was not considered a constraint in an effort to broaden the options available for consideration. Other constraints are:

- Private property
- Outside the Town's jurisdiction (located within the City of Scottsdale)

2.2.1 Private Property

Many of the washes within the Town are located on private property, without the benefit of a drainage easement. Therefore, many solutions that require construction of improvements on private land would require an easement from the property owners. It may be time consuming and expensive for the Town to obtain the necessary easements from the property owners.

2.2.2 Outside Town's Jurisdiction

The Town is bordered by the City of Scottsdale on the south and east. Many of the major roadways that serve the Town are within the jurisdiction of the City of Scottsdale. This includes Carefree Highway, a portion of Tom Darlington Drive, and a majority of Stagecoach Pass Road. Therefore, any improvements made to these roadways would need to be coordinated with the City of Scottsdale. Scottsdale, who owns the right-of-way, is responsible for the repair, maintenance, and costs associated with the roads.

SECTION 3

Solutions to Drainage Problems

The implementation of all suggested drainage improvements is not economically feasible. Thus, a prioritization procedure is designed in the following way to identify the order in which these projects should be constructed.

3.1 Solution Categories

Solutions for drainage problem areas were found to range from simple to large-scale solutions. The Town employs an engineering and maintenance staff, who are a potential resource for some of the improvements. Therefore, those sites were grouped into four different solution categories:

- Simple solutions using the Town's existing maintenance staff (2 sites)
- Private projects (on private property, homeowners' associations) (12 sites)
- Intermediate solutions (40 sites)
- Complex solutions (high cost/low benefit, outside Town's jurisdiction) (10 sites)

Table 1 contains a listing of the sites in each category. For the purpose of this DMP, the sites in the Intermediate solution category were advanced to the Alternative Evaluation phase for further consideration.

3.2 Alternative Evaluation

Further evaluation of the 40 sites in the Intermediate solution category was performed. A prioritization process was initiated to determine which sites should be advanced to the preliminary design stage. This procedure may also be used by the Town in preparing a Capital Improvements Plan.

The *Flood Accessibility Emergency Routes Evaluation*, attached as Appendix C of this DMP, identifies wash/road crossings that may be impassable during runoff events, and recommends sites for improvements to enable access. The recommendations for improvements were included in the alternative evaluation process, as these sites are considered important in improving public safety in the Town.

3.2.1 Procedure for Ranking Problem Sites

The following procedure may be used in developing prioritization for proposed improvements. In general, this procedure takes criteria elements, gives them a weight of importance, and then compares individual sites against each other.

Criteria elements are necessary to determine what is important to the Town. The following criteria were developed to reflect the project's importance to the Town:

- Maintenance – How frequently must maintenance be performed at the problem site?

- Safety – Is there a public safety concern?
- Severity of Damage – How severe is the damage?
- Frequency – How often does the problem occur?
- Local Impact – How many properties does this problem affect?

The Town may want to consider other factors, such as cost, in the future when creating a Capital Improvement Plan.

A prioritization procedure was developed with input from the Town. This procedure developed preliminary criteria elements and ranking of potential importance to the Town. Roadway crossings were ranked as either passable or impassable; the quantity of flow alone does not give an individual crossing importance over another.

The result of this procedure is a list of the sites that are regionally as well as locally significant and should be placed as a higher priority for improvement. For example, a crossing is considered to have a higher public safety and local impact significance if a large number of lots are cutoff during a flood event, as more residents are likely to attempt to cross the area. Although one crossing may have a higher depth and velocity of flow than another, it can be avoided if an alternate route exists. This access plan addresses community education and potential signage in subsequent sections of this document to help the public avoid these crossings and take alternate routes, in addition to improving the crossing in the future.

Once the criteria elements have been developed, a weight of importance is developed for each criterion using a decision matrix. This is determined by comparing each criteria element against every other criteria element, and deciding how much one is preferred over the other. This is translated into a numerical score, which becomes a weighting factor for the criteria element. For an example of the scoring matrix see Figure 8. In the example, the first measure taken is Maintenance (A) against Safety (B). Safety is chosen as a higher priority so B is placed in the first diamond adjacent to A & B. Then Safety is considered to be a 'medium' preference over maintenance with a scoring of 3 as shown in the box on the right under **How Important.** Hence the score of B-3 in the diamond. Next Maintenance (A) is scored against Severity (C), then A against D and so on for the first diagonal row of diamonds. For the second row we begin with B vs. C, then B vs. D and so on until all the diamonds are filled out. Then all of the scores for A are added numerically, in this case the total is 2 and is placed in the table below on the row Raw Score. Then the Raw Scores are reduced to a scale of 1-10 to show relative weight of importance.

After the weighting factors for the criteria elements have been determined, each individual problem location in the Town is scored against the criteria, based on the site-specific characteristics. For instance, a specific site is looked at for required maintenance. A different score is given if the site requires frequent maintenance over infrequent maintenance. A score is given, and then the score is multiplied by the previously determined weight of importance for the criteria element. This procedure is completed for all criteria elements, and an overall numerical score for the site is obtained. The higher the numerical score, the higher priority the site should be given.

A blank form is included as Figure 9.

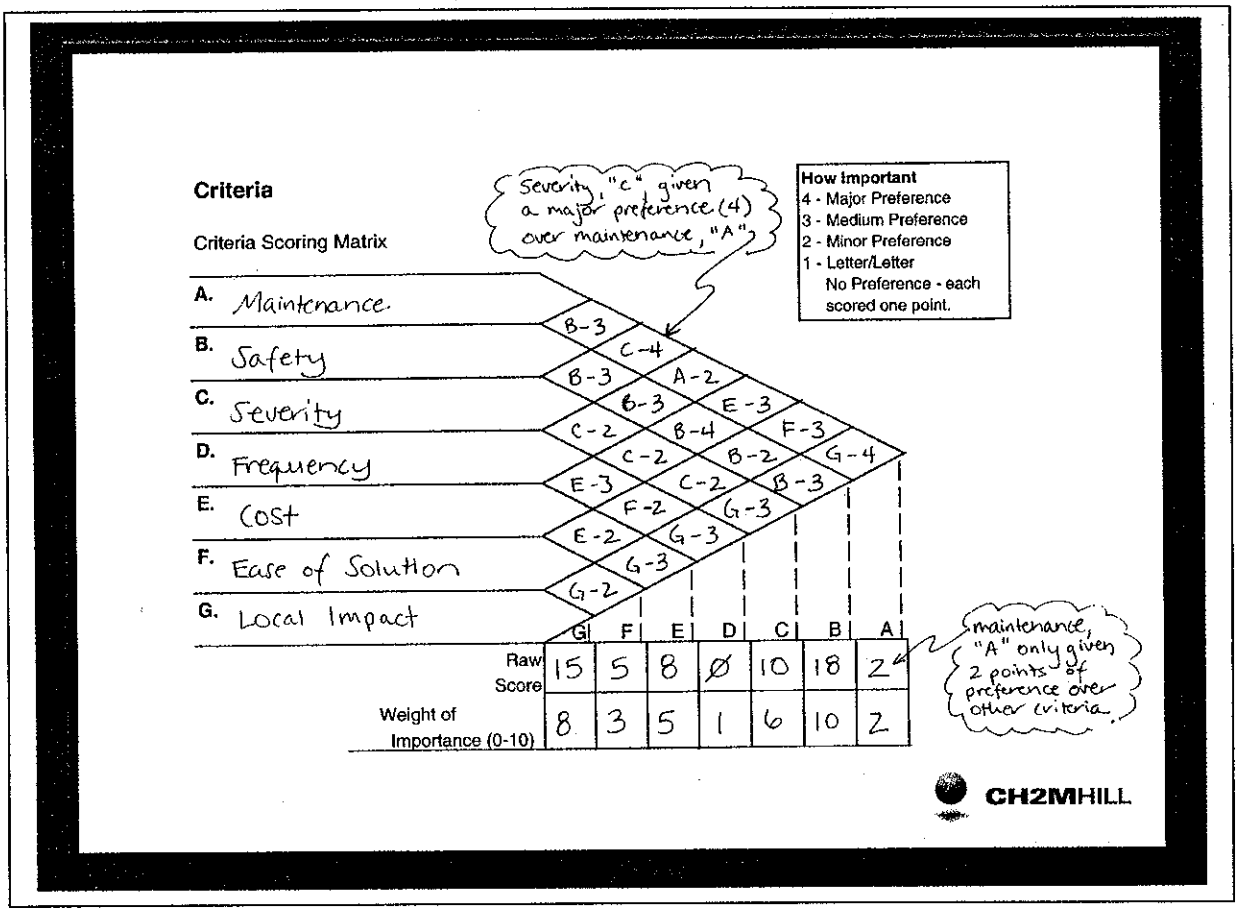


FIGURE 8.- EXAMPLE SCORING MATRIX

4C. Matrix Analysis
Study No. _____

How Important
4 - Major Preference
3 - Medium Preference
2 - Minor Preference
1 - Letter/Letter
No Preference - each scored one point.

Criteria

Criteria Scoring Matrix

	G	F	E	D	C	B	A
A.							
B.							
C.							
D.							
E.							
F.							
G.							

	Raw Score							
Alternatives Analysis Matrix	Weight of Importance (0-10)							**Total**
1.								
2.								
3.								
4.								
5.								
6.								
7.								

FIGURE 9. BLANK CRITERIA ANALYSIS FORM

SECTION 4

Proposed Improvements

Out of the 71 potential improvement sites, seven have been advanced to a preliminary design stage. These sites are discussed in detail in the Preliminary Design Plans section of this report. This section discusses improvements at the remaining 64 sites.

Comprehensive, general recommendations (e.g., Figure 10) that can be applied during improvements at a majority of the drainage sites are found in the *Engineering Design Guidelines*, attached as Appendix D of this DMP, and the *Carefree Drainage Master Plan Task 2.3.2.1 - Sedimentation Alternative Analysis* memorandum attached as Appendix B of this DMP. Additional general recommendations were previously published in Appendix H of the *Data Collection Report* (CH2M HILL, 2002). These recommendations are important during the design of future improvements and future development as they ensure that drainage in the Town is not negatively impacted by these activities.

FIGURE 10. TYPICAL AT-GRADE CROSSING WITH EROSION PROTECTION

Table 1 discusses each site and potential solutions for all of the sites that are not covered under the Preliminary Design Plans section of this report, including the 64 sites mentioned above, as well as those that are on private property, outside the Town's jurisdiction.

4.1 Regional Considerations for Improvements

In addition to site-specific and localized drainage problems, regional considerations are important in the drainage of the Town. The Town is located in a geomorphically dynamic environment, and the washes are subject to many regional processes. Additional information on these regional considerations that should be used during the design of proposed improvements can be found in the *Engineering Design Guidelines* (Appendix D of this DMP), *Data Collection Report* (CH2M HILL, 2002), and *Sedimentation Alternative Analysis* (Appendix B of this DMP).

4.1.1 Wash Systems

Any disturbance that occurs in or adjacent to a wash is likely to cause changes, most often in the form of aggradation or degradation. Aggradation is an important process to monitor in the Town. The increase in wash bed elevations could cause flooding of properties adjacent to the washes due to decreased capacity of the wash. Aggradation seen in the Town is typically caused by urbanization. Therefore, simply grading the wash and removing sediment will not solve the problem, as the wash will continue to aggrade unless the source or impact to the wash is removed. Additionally, any work within the washes in Carefree

will likely require easements from the property owners and a Floodplain Use Permit from Maricopa County. For additional information on permitting requirements, reference the *Carefree Drainage Improvements Permitting Summary*, included in Appendix A of this DMP.

Encroachment into a wash and its floodplain will also cause a response in the form of channel changes, and should be avoided.

4.1.2 Detention/Retention Basins

Currently, detention and retention basins are designed for the 100-year flood. As a result, the basin outlet works are too large to have any appreciable impact on the smaller runoff event. Since urban development has the greatest impact on more frequent events, such as the 2-year event, provisions should be implemented to address these impacts on future basin design.

4.1.3 Regional Recreational Opportunities

The natural washes that exist in the Town provide opportunities for trails, and other multi-use opportunities such as recreation areas and open space. Appendix I includes the *Wash Access Study* which outlines detailed trail and recreational possibilities and maintenance access in the regions washes and flood control structures.

In general, the Town of Carefree prefers to see informal trail alignments. The residents of Carefree have historically allowed access to the trails and washes, but most land owners are not amenable to granting easements and right-of-ways. The Town of Cave Creek and the City of Scottsdale have identified important connectivity points between the jurisdictions, which occur at the washes. All jurisdictions indicate that providing horse and trail access to the washes is important in conjunction with any flood control structures or easements.

4.2 Preliminary Design Plans

Based on the scoring matrix efforts and the resulting grouping of the scores, Preliminary Design Plans were created for the seven sites. Each site is discussed near the end of this section.

4.2.1 Utilities

Many utilities exist in the Town. Research was performed at the following utility companies:

- Cox Communications
- Black Mountain Gas
- Arizona Public Service
- Qwest Communications
- Cave Creek Water Company
- Carefree Water Company
- Town of Carefree

Utility locations are shown on the design plans for each site, Figures 14 through 20.

4.2.2 Environmental Documents

A research of hazardous materials, archeological resources, and ecological resources was performed as part of the DMP. The following reports are included in Appendix A of this DMP:

- *Preliminary Initial Site Assessment* - hazardous materials
- *Literature Review for the Carefree Drainage Master Plan* – cultural and archeological resources
- *Carefree Drainage Master Plan – Ecological Assessment* – ecological resources
- *Carefree Drainage Improvements Permitting Summary* – required permits

4.2.2.1. Hazardous Materials

The *Preliminary Initial Site Assessment* researched the proposed improvement sites for the presence or likely presence of hazardous substances or petroleum products. No sites were found that pose a significant environmental impact; however, further research of an open leaking underground storage tank, located near Cave Creek Road and Tom Darlington, was recommended prior to initiating work.

4.2.2.2. Cultural Resources

The *Literature Review for the Carefree Drainage Master Plan* was performed to determine whether any previously recorded cultural resources are located with the improvement area. Two prehistoric sites that were recommended as potentially eligible for the National Register are located within 0.25 miles of the proposed sites #3 and #6 on Cave Creek Road. Additionally, four historical properties have been identified in the Town that may extend into the projects' area of potential effect. These four sites are historic roadways and travel corridors. All project sites should be surveyed for cultural resources prior to construction, and, should resources be found, be avoided if at all possible.

4.2.2.3. Ecological Assessment

The *Carefree Drainage Master Plan – Ecological Assessment* surveyed ecologically significant areas, defined as areas supporting native or natural vegetation. Protected native plants, such as saguaros, cholla, palo verde, and other species are found adjacent or in all of the proposed improvement areas. Avoidance of these protected plants is recommended, and the Arizona Department of Agriculture must be notified in writing at least 60 days in advance of planned destruction of these plants. Additionally, although not specifically protected by the Arizona Native Plant Law, the crucifixion thorn and other large shrubs that provide high resource values for wildlife should also be avoided.

4.2.2.4. Permitting

The *Carefree Drainage Improvements Permitting Summary* describes the federal, state, and local permits, approvals, reviews, and similar actions that may be required for the construction of the proposed drainage improvements.

4.2.3 Structure Options

Numerous options were investigated for providing wash crossings. In all cases, a passable crossing for vehicles was crucial, and therefore separation of the road grade and wash grade was necessary. Additionally, because of the dynamic nature of the washes in the Town, spanning as much of the wash as possible is important, with a crossing that does not impact the wash at all being preferred (i.e., the structure spans the wash and floodplain). The Town's unique character is also important to the residents and staff, and an aesthetically pleasing solution with low visual impact is preferred.

Three general categories of options for the crossings exist, each with their own advantages and disadvantages, as shown in Table 2 of this DMP.

TABLE 2
Improvement Options and Generalized Pros/Cons

Type	Pros	Cons
Conventional Culverts – boxes, pipes, etc.	Cost	Aesthetics/Floodplain Impact
Conventional Bridges – slab bridge with piers, etc.	Spans entire floodplain	Cost, Aesthetics
Pipe Arch Bridges – an arch-type multiplate culvert with bridge-like facing	Aesthetics	Some Floodplain Impact

Note: Reference Table 3 for specific site analysis

4.2.3.1. Aesthetics

Numerous aesthetics treatments are available for pipe arch bridges. One pipe arch bridge currently exists in the Town and has an adobe-type stucco treatment. Additional treatments, such as rock facings, are available. A picture of a rock-face treatment is shown in Figure 11. Applying facades and aesthetic treatments are recommended in the future improvements for the Town.

Facing facades can be placed on culverts and wingwalls that help them blend into the surrounding environment. Figure 12 shows and example of a culvert facing treatment.

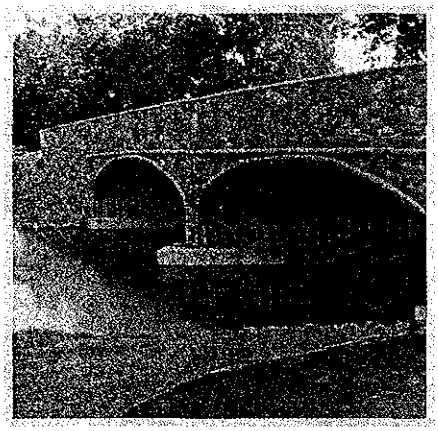


FIGURE 11. EXAMPLE OF A ROCK FACADE ON A PIPE ARCH BRIDGE

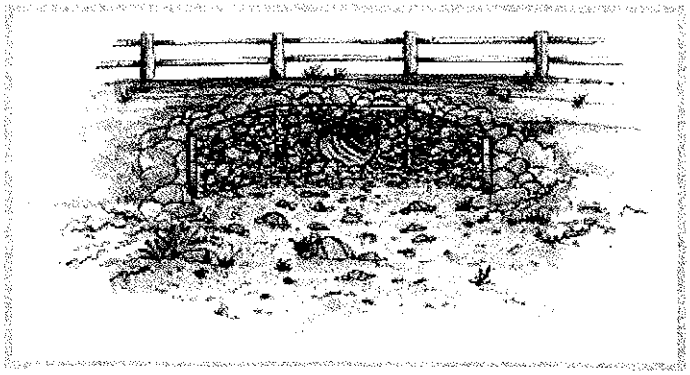


FIGURE 12 - EXAMPLE OF CULVERT FACING TREATMENT

4.2.4 Design Sites

The seven sites identified from the matrix scoring effort are presented in Figure 13. Additional site-specific sedimentation impacts and recommendations for the design sites and general recommendations for flood control improvements can be found in the *Sedimentation Alternative Analysis – Level II*, attached in Appendix B of this DMP. All of these sites will result in conflicts with existing utilities.

4.2.4.1. Tranquil Trail near Sundance Trail, Site Numbers JEF 35 and JEF 55 (Figure 14)

Galloway Wash currently flows over the road at Tranquil Trail, with a 100-year future flow amount of 3,460 cubic feet per second (cfs). Additionally, the confluence of a smaller tributary to Galloway Wash joins the main wash in this same location, with a tributary flow of 919 cfs. Two small, undersized culverts exist in the location of the tributary.

To provide a passable crossing at this location, a total of six 20 feet 4 inches by 4 feet 6 inches corrugated metal pipe arches are proposed: four at the main wash crossing and two at the tributary wash crossing. This will require reconstruction of approximately 16,000 square feet of pavement and placement of fill. Utility conflicts in this location are possible, and temporary construction easement (or permanent drainage easement) will need to be obtained from the property owner.

4.2.4.2. Sombrero Road near Cow Track Drive, Site Number JEF 44 (Figure 15)

Galloway Wash Middle Branch currently flows over Sombrero Road. The floodplain has braided flow conditions and is relatively wide. A 100-year future flow of 2,990 cfs is expected at this location. Because of the braided flow conditions, relief culverts are proposed in addition to the main drainage structure.

To provide a passable crossing at this location, four 20 feet 4 inches by 4 feet 6 inches corrugated metal pipe arches and two 54-inch-diameter corrugated metal pipes are proposed. Approximately 11,000 square feet of pavement will require reconstruction, along with the placement of fill. A potential for utility conflicts exists. Additionally, an easement will be necessary for the fill slopes and downstream riprap protection.

4.2.4.3. Golden Spur Lane, Site Number JEF 52 (Figure 16)

An at-grade crossing currently exists on Golden Spur Lane, with a 100-year future flow of 747 cfs. To provide a passable crossing in this location, four 10 feet by 4 feet concrete box culverts are proposed. This will require approximately 13,000 square feet of pavement reconstruction, roadway fill, and right-of-way acquisition. Additionally, easements will be required for the roadway fill. Potential conflicts with cable and telephone utilities exist.

4.2.4.4. Cave Creek Road near New River Road, Site Number 6 (Figure 17)

Three 66-inch-diameter corrugated metal pipes exist under Cave Creek Road in this location. However, these pipes will not handle the 2,462 cfs expected for the 100-year event. The culvert site is located directly adjacent to a sewage lift station, and many other utilities exist in this area. Potential conflicts with these utilities exist.

Installation of three 20 feet 4 inches by 4 feet 6 inches corrugated metal pipe arches are proposed at this location. Since the average wash width will increase due to this proposed

culvert, a berm is recommended to prevent the low-flows from entering the third barrel. The only time flows will enter the third barrel will be when the berm height is exceeded.

4.2.4.5. Pima Road near Short Putt Place, Site Number JEF 32 (Figure 18)

Galloway Wash flows over Pima Road near Short Putt Place, with a 100-year future flow of 1,260 cfs. An existing floodplain and floodway map shows the overtopping flow to split to the north and south and surround an existing house with floodwaters. The proposed improvements, five 11 feet 0 inches by 3 feet 6 inches corrugated metal pipe arches, are designed to eliminate the flow around one side of the house, thus improving the flooding situation on that property. Revising the floodplain map with Federal Emergency Management Agency (FEMA) and Maricopa County showing this change in condition would be advantageous to an adjacent landowner as a portion of their property would be free of flooding.

Reconstruction of approximately 17,000 square feet of roadway, including portions of Short Putt Place and the residential driveway, are necessary. An easement is required from the property owner for construction of these improvements. Utility conflicts are possible at this location.

4.2.4.6. Rising Sun Road, Site Number 190 (Figure 19)

Two undersized culverts exist across Rising Sun Road. A flow of 834 cfs is expected in the future in a 100-year event. Five 6 feet 1 inch by 4 feet 7 inches corrugated metal pipe arches are proposed in this location, requiring approximately 7,000 square feet of roadway reconstruction. One utility, cable television, was reported to exist on this road; thus, there are potential conflicts with these utilities. An easement from the property owners would be necessary for construction.

4.2.4.7. Cave Creek Road, Site Number 3 (Figure 20)

An existing double barrel 71- by 47-inch corrugated metal pipe arch exists under Cave Creek Road, north of Carefree Highway. A flow of 566 cfs arrives at this location during a 100-year event. The existing culverts' capacities are severely compromised by sediment.

The addition of three more barrels is proposed at this location to increase the capacity so that the roadway remains passable during a 100-year runoff event. Due to the amount of sediment accumulation that has occurred in this wash, a depressed inlet apron is proposed in lieu of substantial wash grading. Additionally, due to the width of the floodplain at this point, the grading of a channel next to the roadway is proposed to direct runoff into the culvert. Potential conflicts with utilities in this immediate area exist.

A development is currently underway at the property immediately downstream of this culvert. The wash at this location must remain natural according to the development agreement for this property.

4.2.5 Conceptual Cost Information for Proposed Improvements

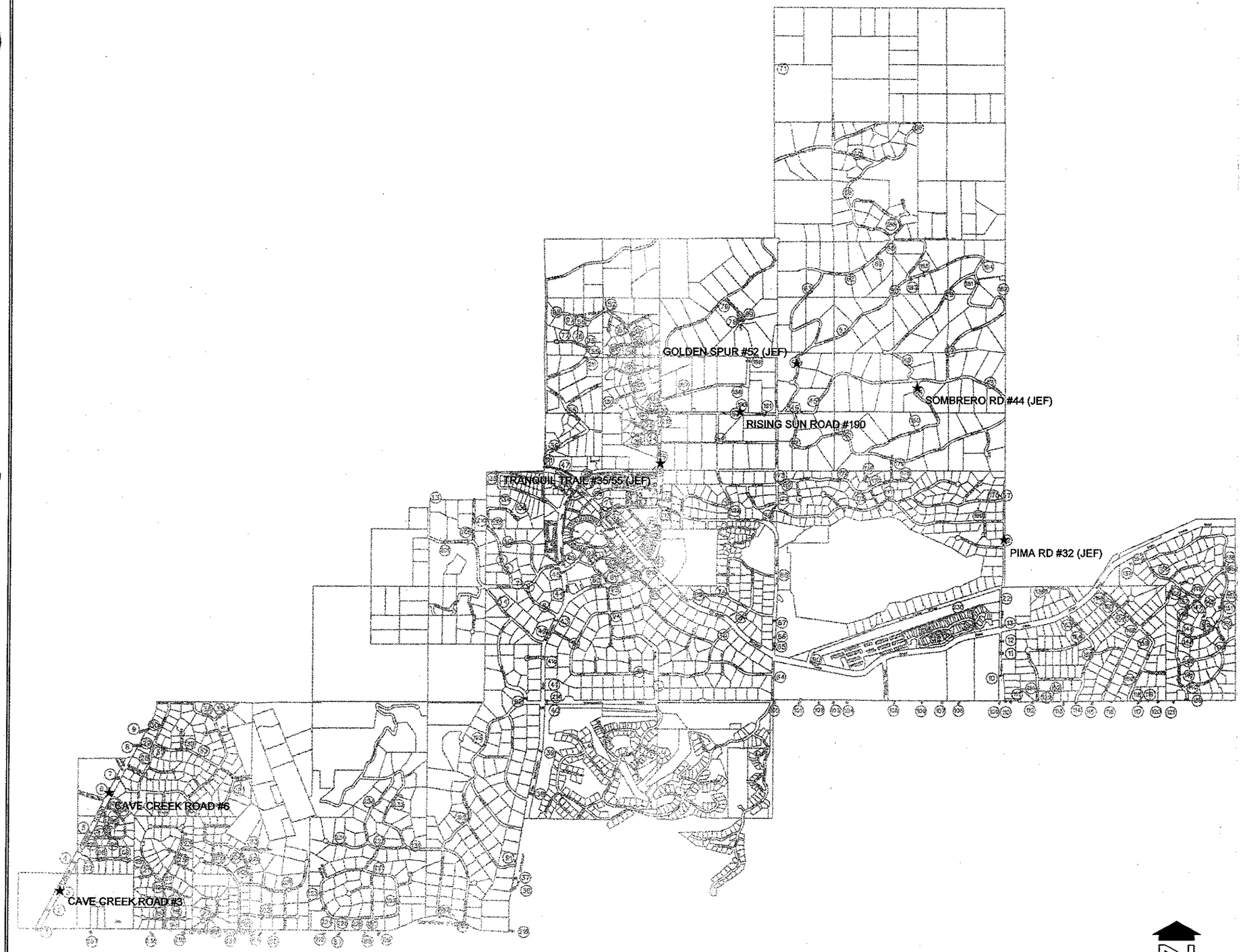
A conceptual-level cost was created for the seven proposed improvement sites. Table 3 contains a summary of the cost information, and Appendix G of this DMP contains a more

detailed information on how the costs were obtained. Due to the conceptual level of these plans, a 30 percent contingency was added to the costs.

TABLE 3
Proposed Improvements Cost Summary

Site	Estimated Construction Costs	Contractor Overhead and Profit (15%)	Construction Contingency (30%)	Total Construction Cost Estimate
Tranquil Trail (JEF 35/55)	$ 592,000	$ 88,800	$ 177,600	$ 860,000
Sombrero Road (JEF 44)	$ 440,000	$ 66,000	$ 132,000	$ 638,000
Golden Spur Lane (JEF 52)	$ 312,000	$ 46,800	$ 93,600	$ 453,000
Cave Creek Road near New River (6)	$ 711,000	$ 106,700	$ 213,300	$ 1,031,000
Pima Road (JEF 32)	$ 204,000	$ 30,600	$ 61,200	$ 296,000
Rising Sun Road (190)	$ 119,000	$ 17,900	$ 35,700	$ 173,000
Cave Creek Road north of Carefree Highway (3)	$ 278,000	$ 41,700	$ 83,400	$ 404,000

The documentation in Appendix G of this DMP includes cost information for prefabricated vehicular truss bridges. These structures are more expensive than the corrugated metal pipe arches, and also have a much greater visual impact than the arch bridges. This information is included for reference only.



NOT TO SCALE

LEGEND

★ ADVANCED STUDY SITES

NOTES

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

CH2MHILL

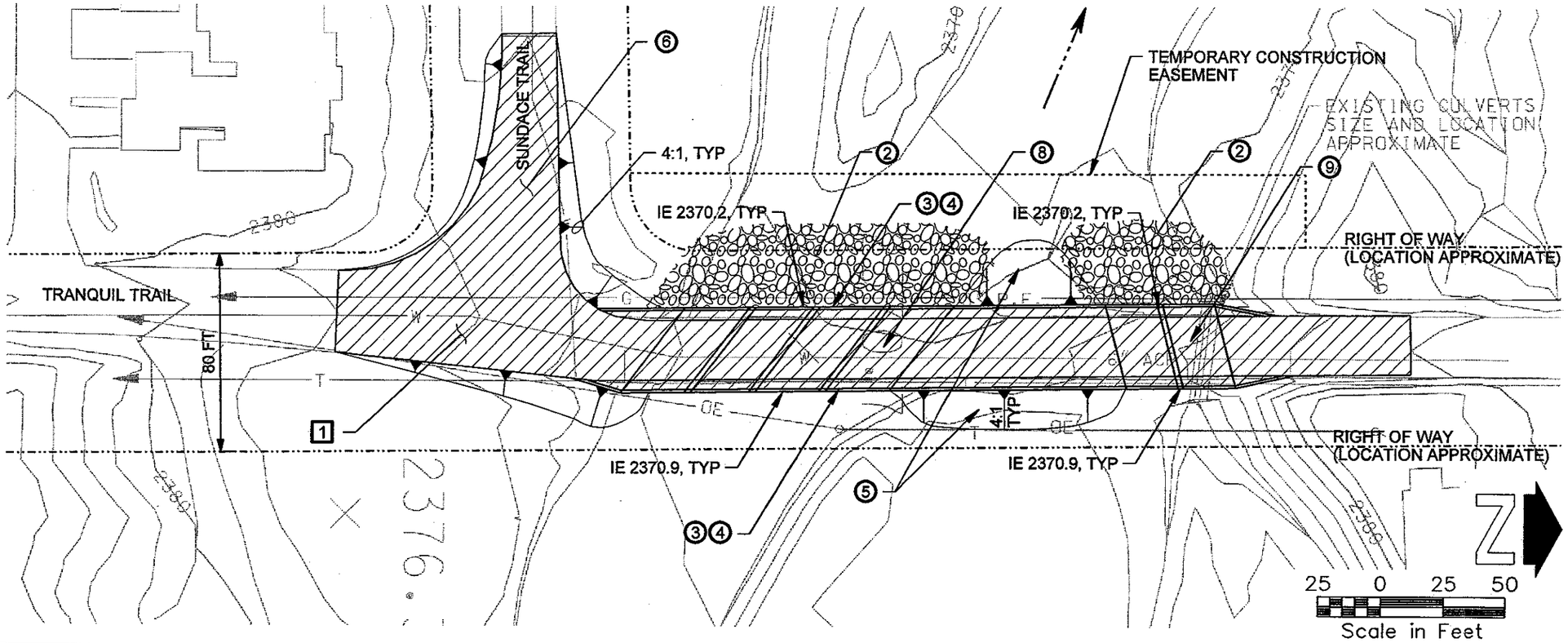
FIGURE 13

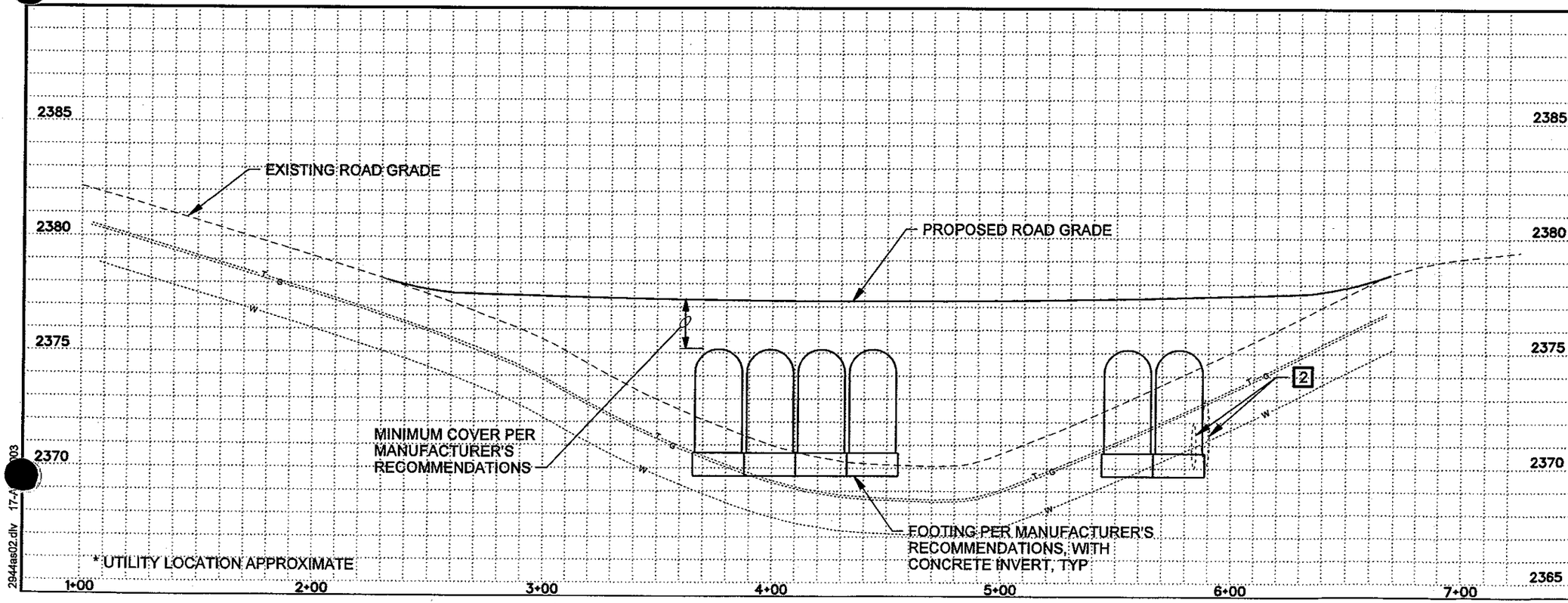
PRELIMINARY DESIGN SITES

CAREFREE DRAINAGE MASTER PLAN

F.C.D. CONTRACT NO. 2000C037

prelim design sites 10-APR-2003





REMOVE

1. EXISTING ROADWAY
2. EXISTING CULVERTS

CONSTRUCT

2. OUTLET PROTECTION
3. HEADWALL
4. GUARD RAIL
5. EMBANKMENT FILL PROTECTION
6. ROADWAY (WITHIN SHADED LIMITS)
8. 4 - 43 LF 20'-4" X 4'-6" CMPA
9. 2 - 35 LF 20'-4" X 4'-6" CMPA

NO.	REVISION	BY	DATE

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

FIGURE 14 - TRANQUIL TR #35/55 (JEF)
TOWN OF CAREFREE DMP
PROJECT CONTROL NO. 2000 C037

	BY	DATE
DESIGNED	ROL	
DRAWN	ROL	
CHECKED	LAJ	

CH2MHILL

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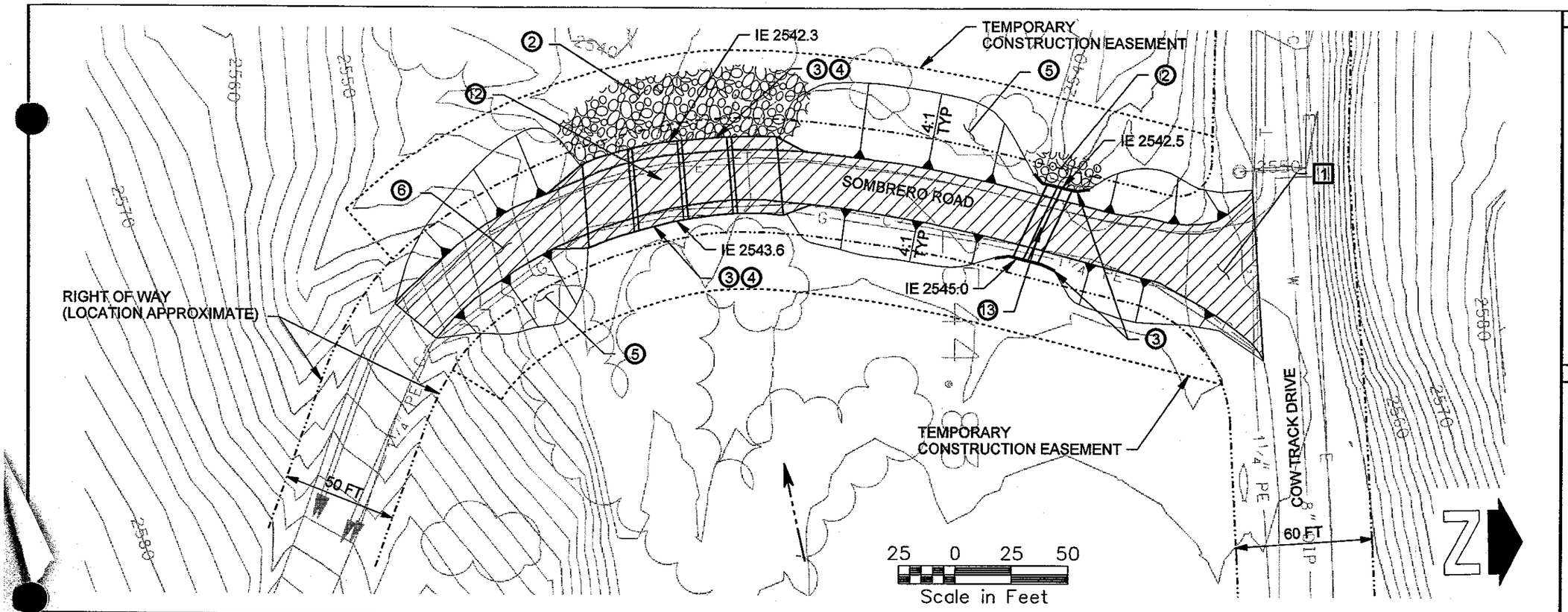

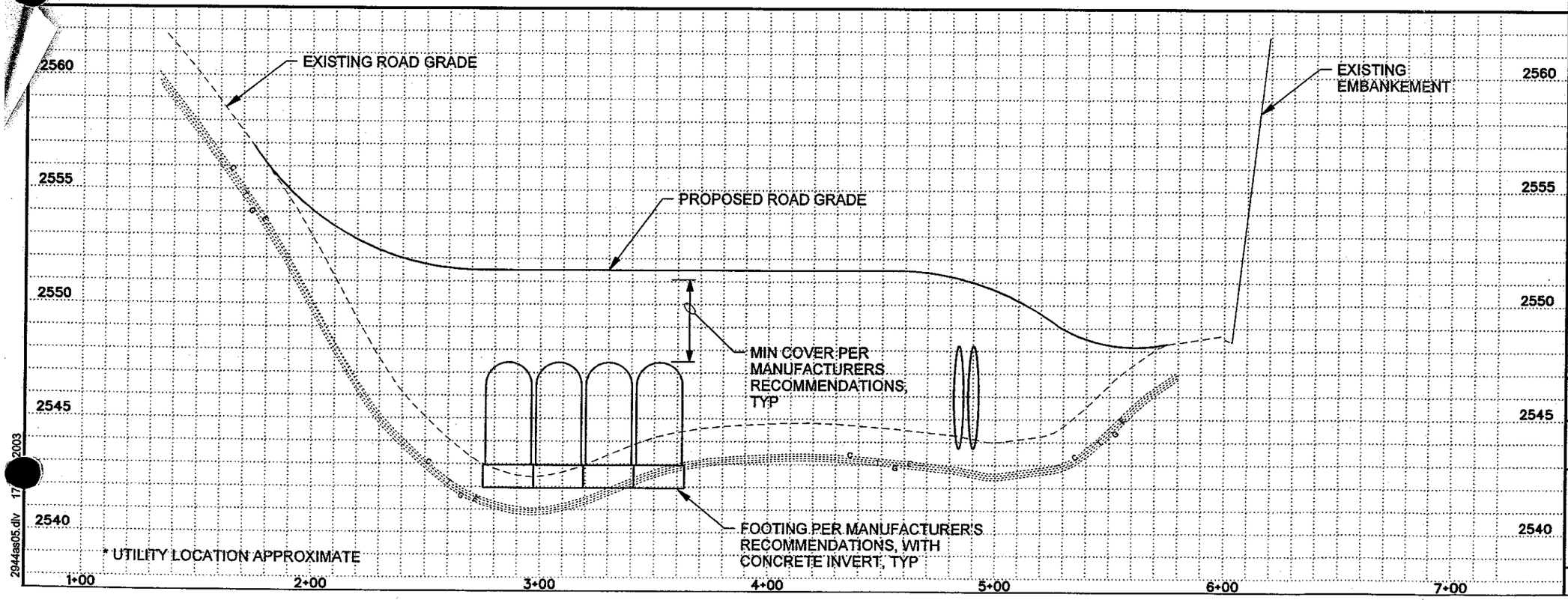

REMOVE

1 EXISTING ROADWAY

CONSTRUCT

2 OUTLET PROTECTION
3 HEADWALL
4 GUARD RAIL
5 EMBANKMENT FILL PROTECTION
6 ROADWAY (WITHIN SHADED LIMITS)
12 4 - 36 LF 20'-4" X 4'-6" CMPA
13 2 - 54" CMP

NO.	REVISION	BY	DATE

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

FIGURE 15 - SOMBRERO RD #44 (JEF)
TOWN OF CAREFREE DMP
PROJECT CONTROL NO. 2000 C037

	BY	DATE
DESIGNED	ROL	
DRAWN	ROL	
CHECKED	LAJ	

CH2MHILL

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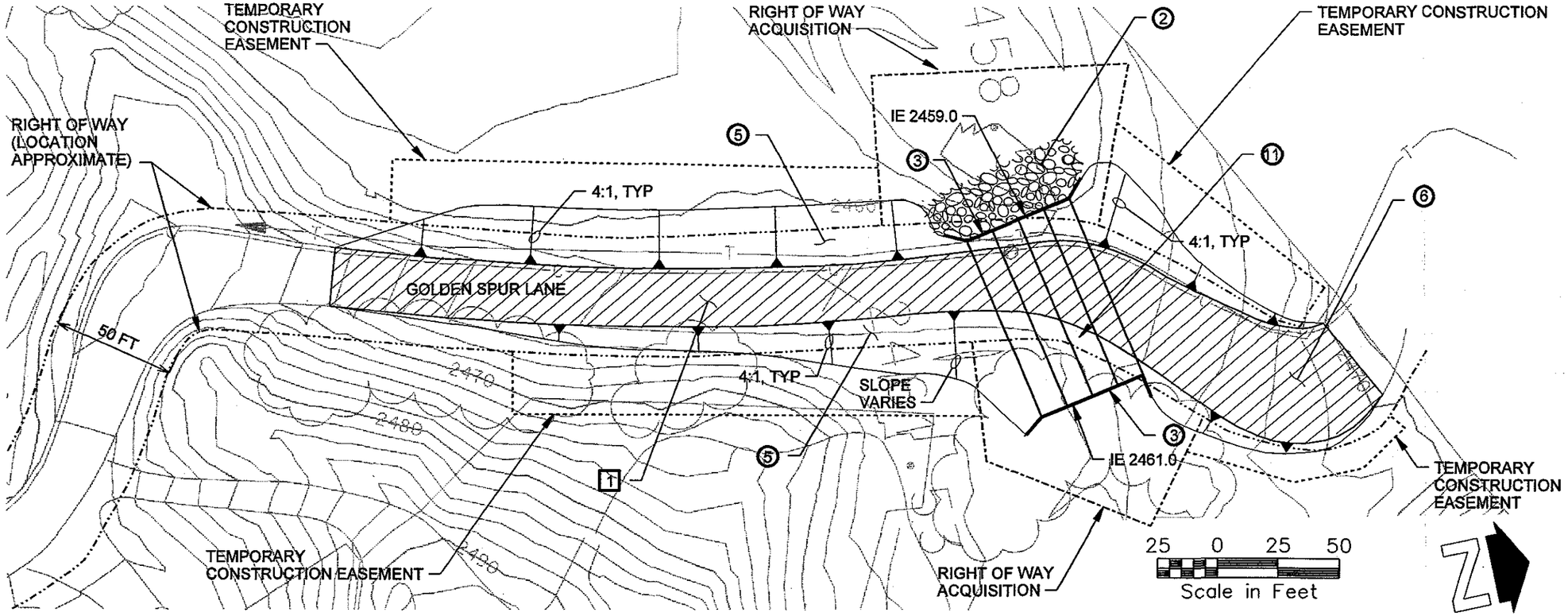

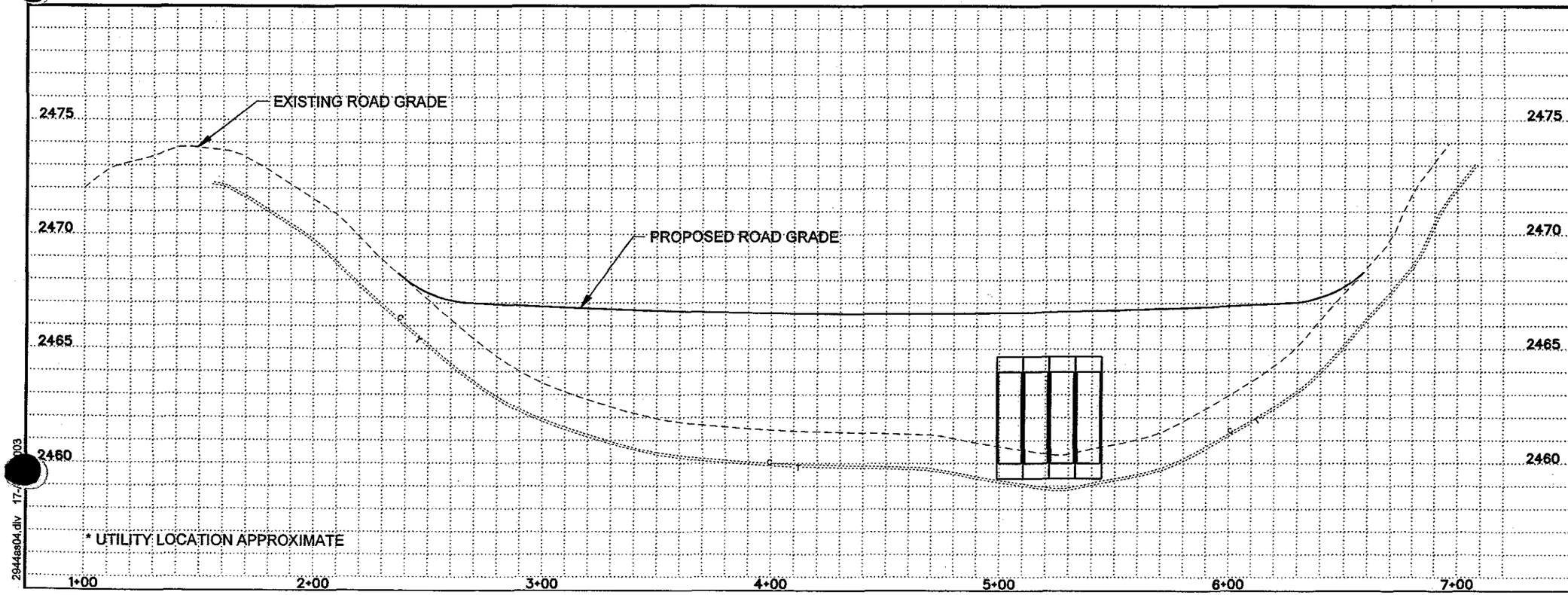

* UTILITY LOCATION APPROXIMATE

REMOVE

1 EXISTING ROADWAY

CONSTRUCT

2 OUTLET PROTECTION
3 HEADWALL
5 EMBANKMENT FILL PROTECTION
6 ROADWAY (WITHIN SHADED LIMITS)
11 4 - 78 LF 10' X 4" CBC

NO.	REVISION	BY	DATE

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

FIGURE 16 - GOLDEN SPUR #52 (JEF)
TOWN OF CAREFREE DMP
PROJECT CONTROL NO. 2000 C037

	BY	DATE
DESIGNED	ROL	
DRAWN	ROL	
CHECKED	LAJ	

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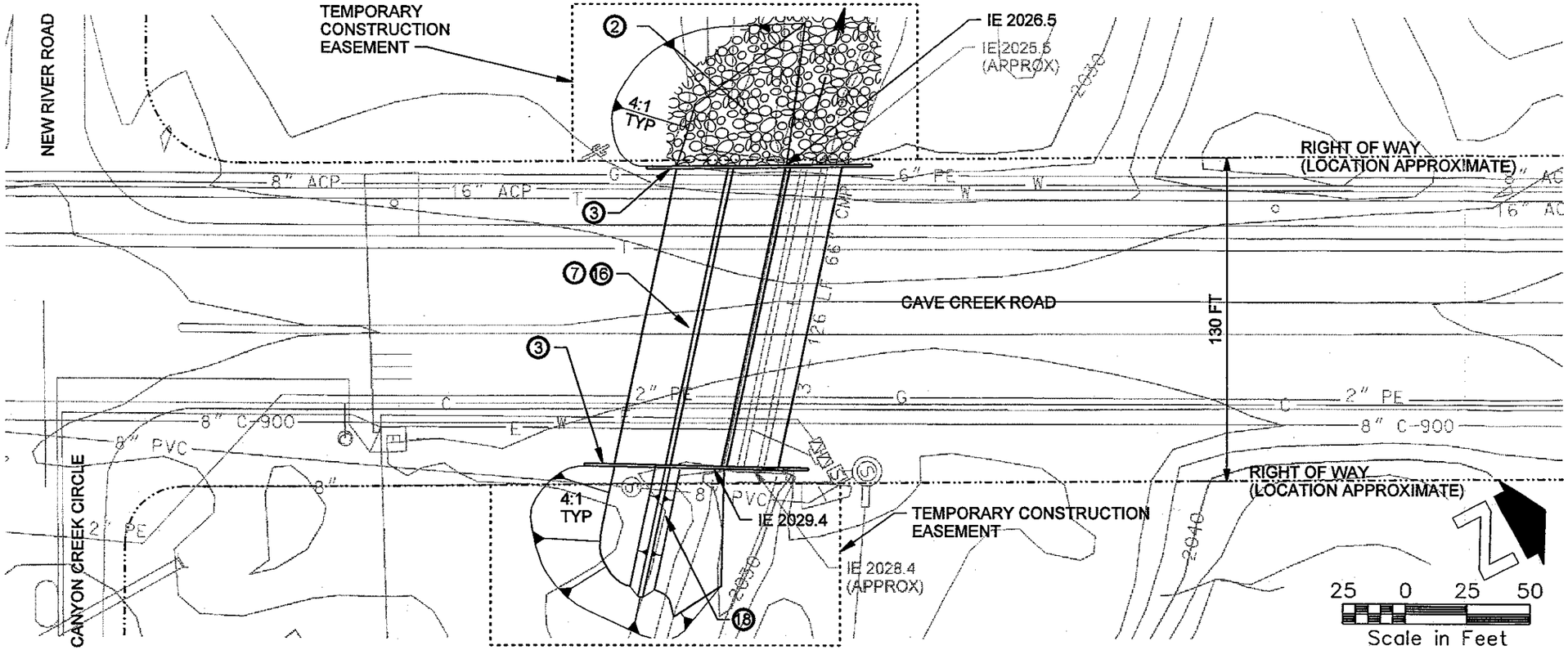

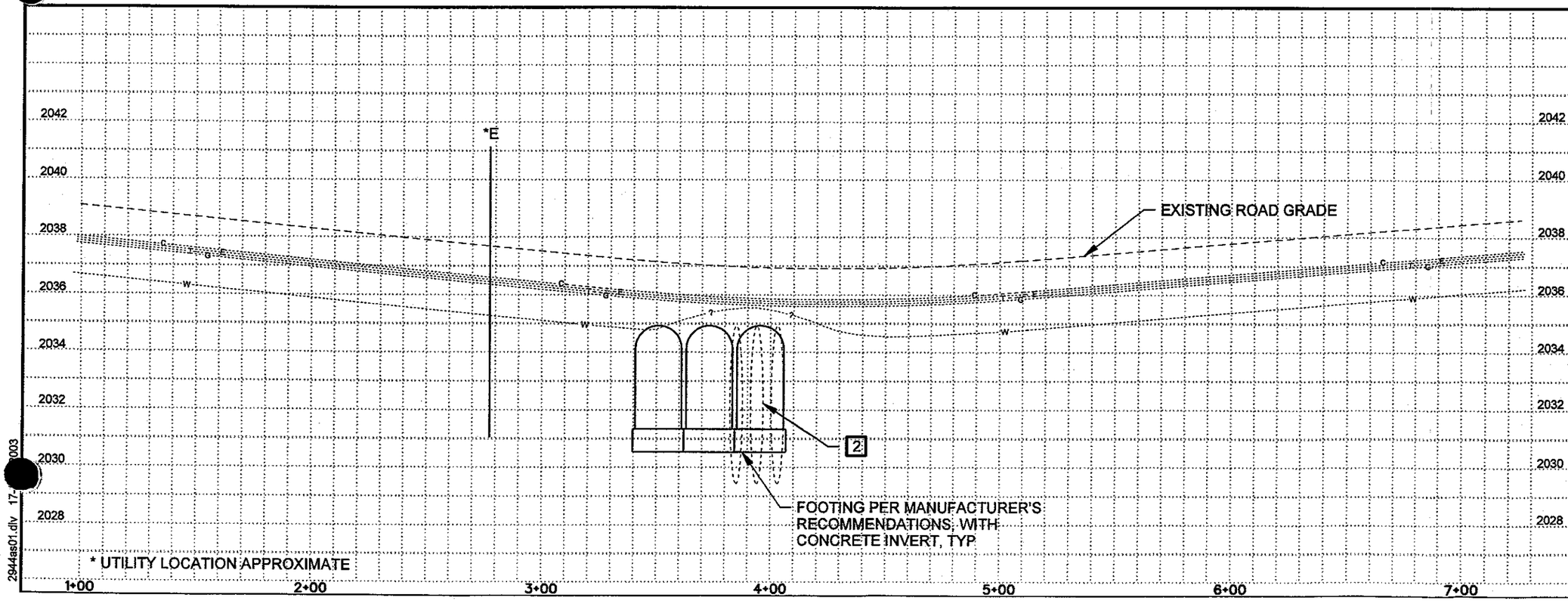

REMOVE

2 EXISTING CULVERTS

CONSTRUCT

2 OUTLET PROTECTION
3 HEADWALL
7 3 - 126 LF 20'-4" X 4'-6" CMPA
16 RESTORE PAVEMENT
18 LOW FLOW BERM

NO.	REVISION	BY	DATE

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

FIGURE 17 - CAVE CREEK ROAD #6
TOWN OF CAREFREE DMP
PROJECT CONTROL NO. 2000 C037

	BY	DATE
DESIGNED	ROL	
DRAWN	ROL	
CHECKED	LAJ	

CH2MHILL

DRAWING NO. 01 | PLAN SHEET | SHEET OF

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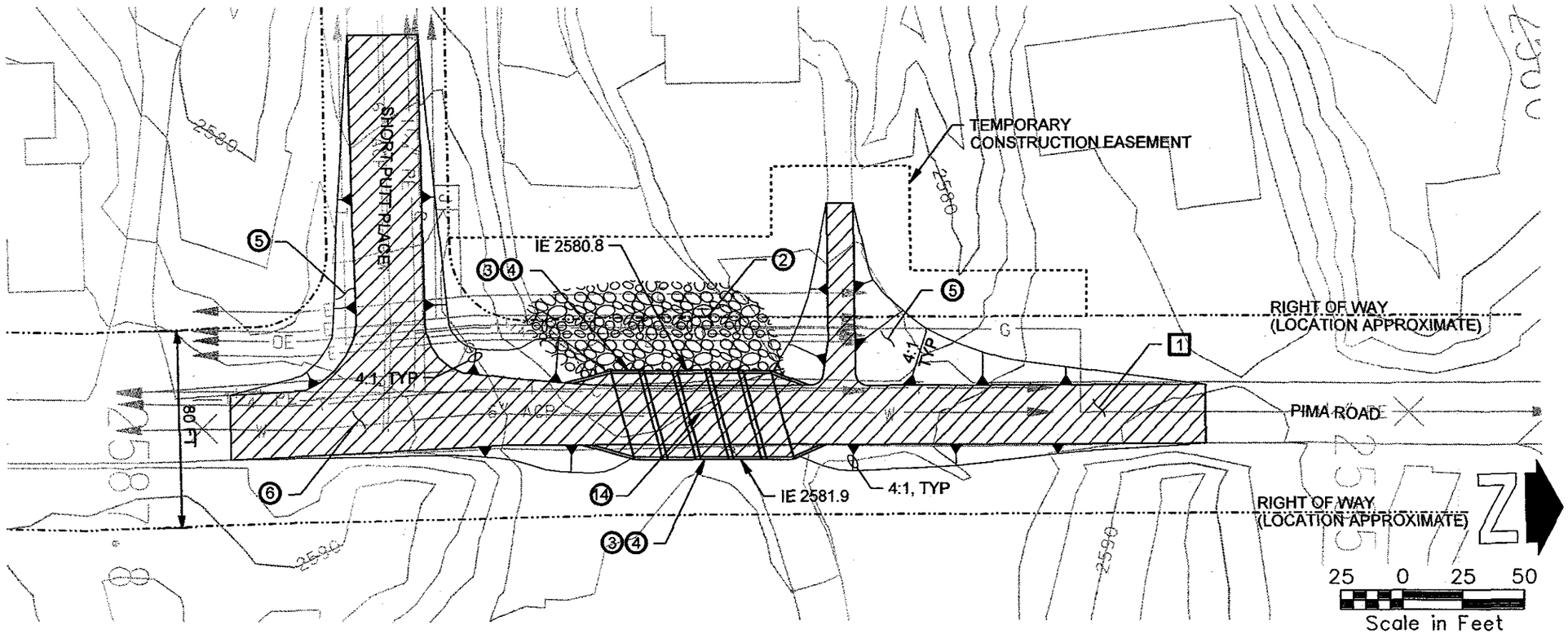

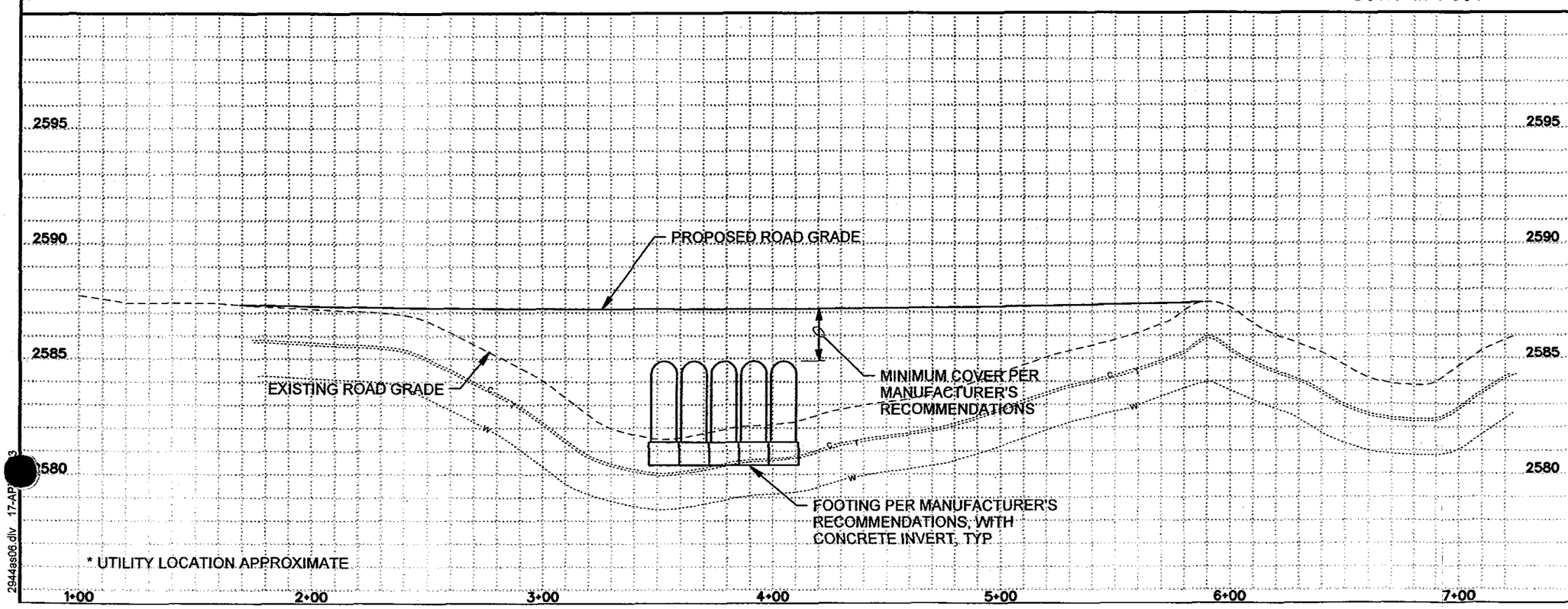

REMOVE

1 EXISTING ROADWAY

CONSTRUCT

2 OUTLET PROTECTION
3 HEADWALL
4 GUARD RAIL
5 EMBANKMENT FILL PROTECTION
6 ROADWAY (WITHIN SHADED LIMITS)
14 5 - 37 LF 11'-0" X 3'-6" CMPA

NO.	REVISION	BY	DATE

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

FIGURE 18 - PIMA RD #32 (JEF)
TOWN OF CAREFREE DMP
PROJECT CONTROL NO. 2000 C037

	BY	DATE
DESIGNED	ROL	
DRAWN	ROL	
CHECKED	LAJ	

CH2MHILL

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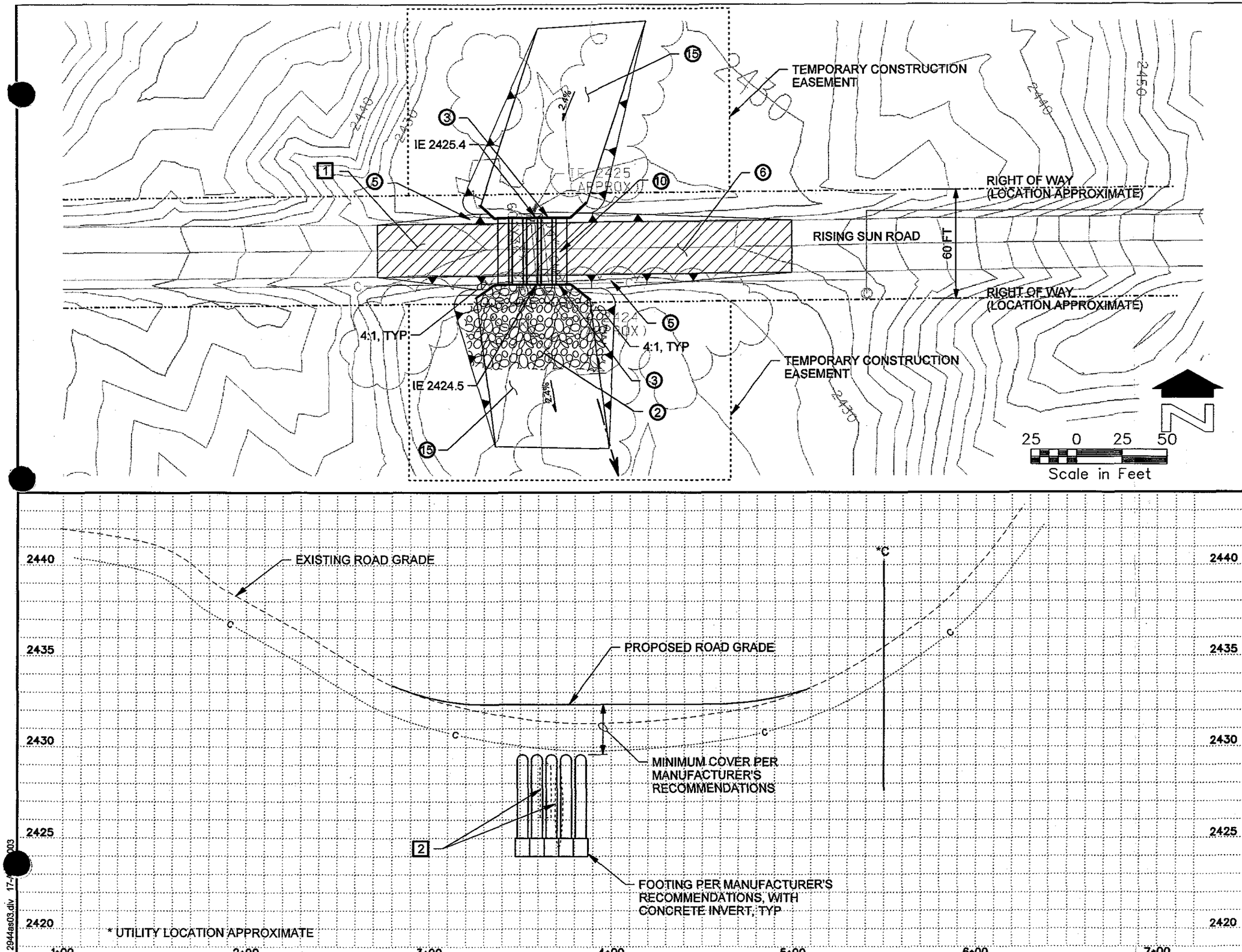


REMOVE

1. EXISTING ROADWAY
2. EXISTING CULVERTS

CONSTRUCT

2. OUTLET PROTECTION
3. HEADWALL
5. EMBANKMENT FILL PROTECTION
6. ROADWAY (WITHIN SHADED LIMITS)
10. 5 - 36 LF 6'-1" X 4'-7" CMPA
15. SEDIMENT REMOVAL

NO.	REVISION	BY	DATE

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

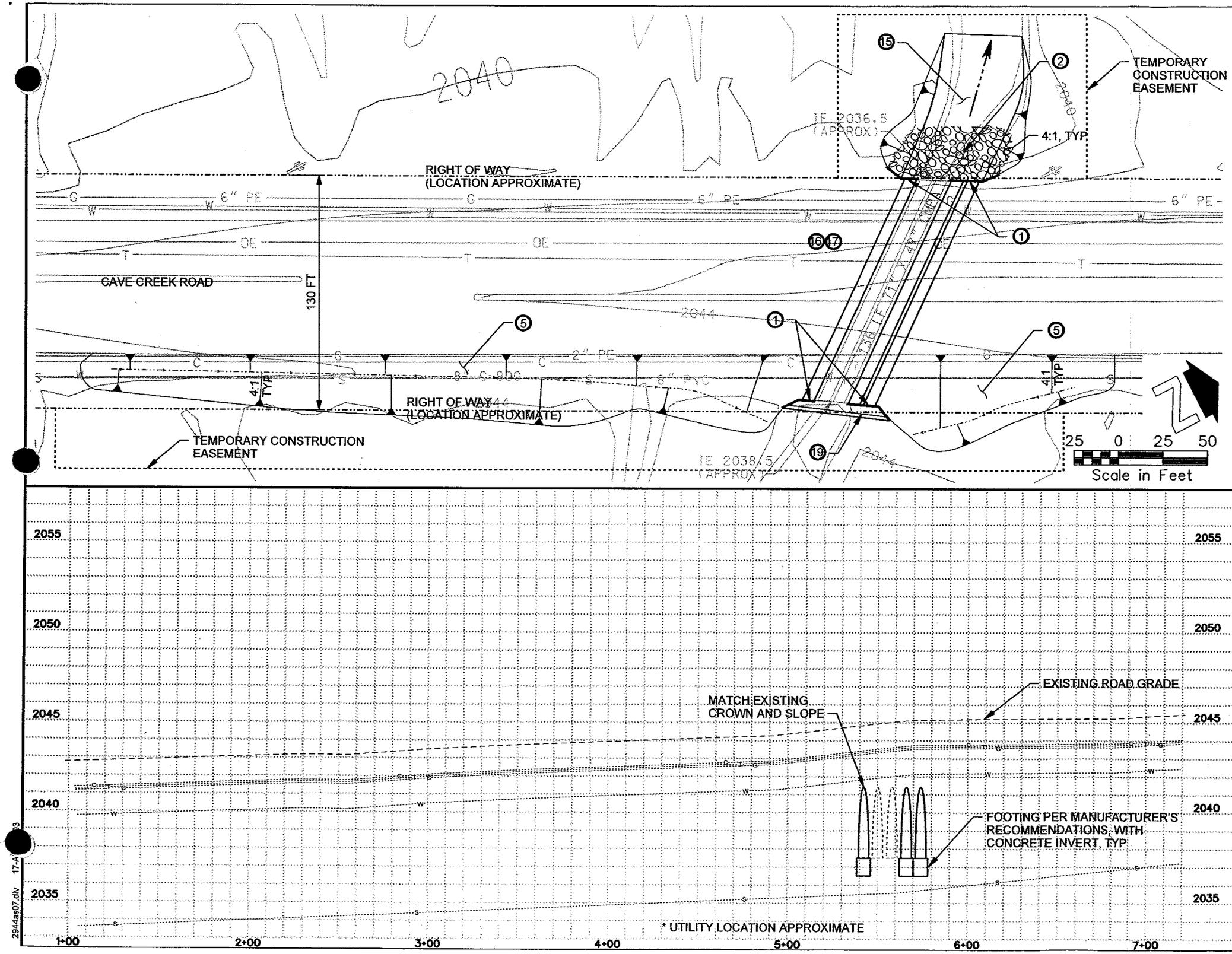
FIGURE 19 - RISING SUN RD #190
TOWN OF CAREFREE DMP
PROJECT CONTROL NO. 2000 C037

	BY	DATE
DESIGNED	ROL	
DRAWN	ROL	
CHECKED	LAJ	

CH2MHILL

DRAWING NO.	PLAN SHEET	SHEET OF
03		

2944as03.dlv 17-Apr-2003



REMOVE

CONSTRUCT

1. EXTEND HEADWALL
2. OUTLET PROTECTION
5. EMBANKMENT FILL PROTECTION
15. SEDIMENT REMOVAL
16. RESTORE PAVEMENT
17. 3 - 136 LF 71" X 41" CMPA
19. CONCRETE DROP APRON

NO.	REVISION	BY	DATE

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

FIGURE 20 - CAVE CREEK RD #3
TOWN OF CAREFREE DMP
PROJECT CONTROL NO. 2000 C037

	BY	DATE
DESIGNED	ROL	
DRAWN	ROL	
CHECKED	LAJ	

CH2MHILL

DRAWING NO.	PLAN SHEET	SHEET OF
07		

2944as07.dlv 17-A 03

SECTION 5

Floodplain Delineation

The Town currently has several washes mapped with regulatory floodplains and numerous unmapped washes. Floodplain delineation was performed on five of the washes in the Town. Some of the washes were new delineation areas, and others were a redelineation using the more accurate data available for this project. These washes are:

- Galloway Wash Middle Branch
- Unnamed Central Tributary to Cave Creek
- Eastern Pima Wash
- Unnamed Tributary to Stagecoach Pass Wash
- Windmill Wash

The washes were mapped their full length through the Town or to a confluence with another major wash with the exception of the Unnamed Central Tributary to Cave Creek. This wash is mapped through Carefree, then across the Carefree Highway through a part of Scottsdale to Terravita Way. Terravita Way is the downstream limit of detailed study for this wash.

Figure 21 shows the locations of the washes mapped as part of the DMP project. The *Technical Data Notebook* (TDN) for the Carefree DMP contains the methodology and results of the floodplain delineation study.

The floodplain study is anticipated to be submitted to FEMA in the spring of 2003. Typical review times at FEMA are approximately 1 year or more, and therefore these areas will not be placed within a regulatory floodplain until the review process is finished. However, the residents should be made aware of the potential flooding hazards as soon as possible. The floodplain delineation maps are included for reference in Appendix H of this DMP.

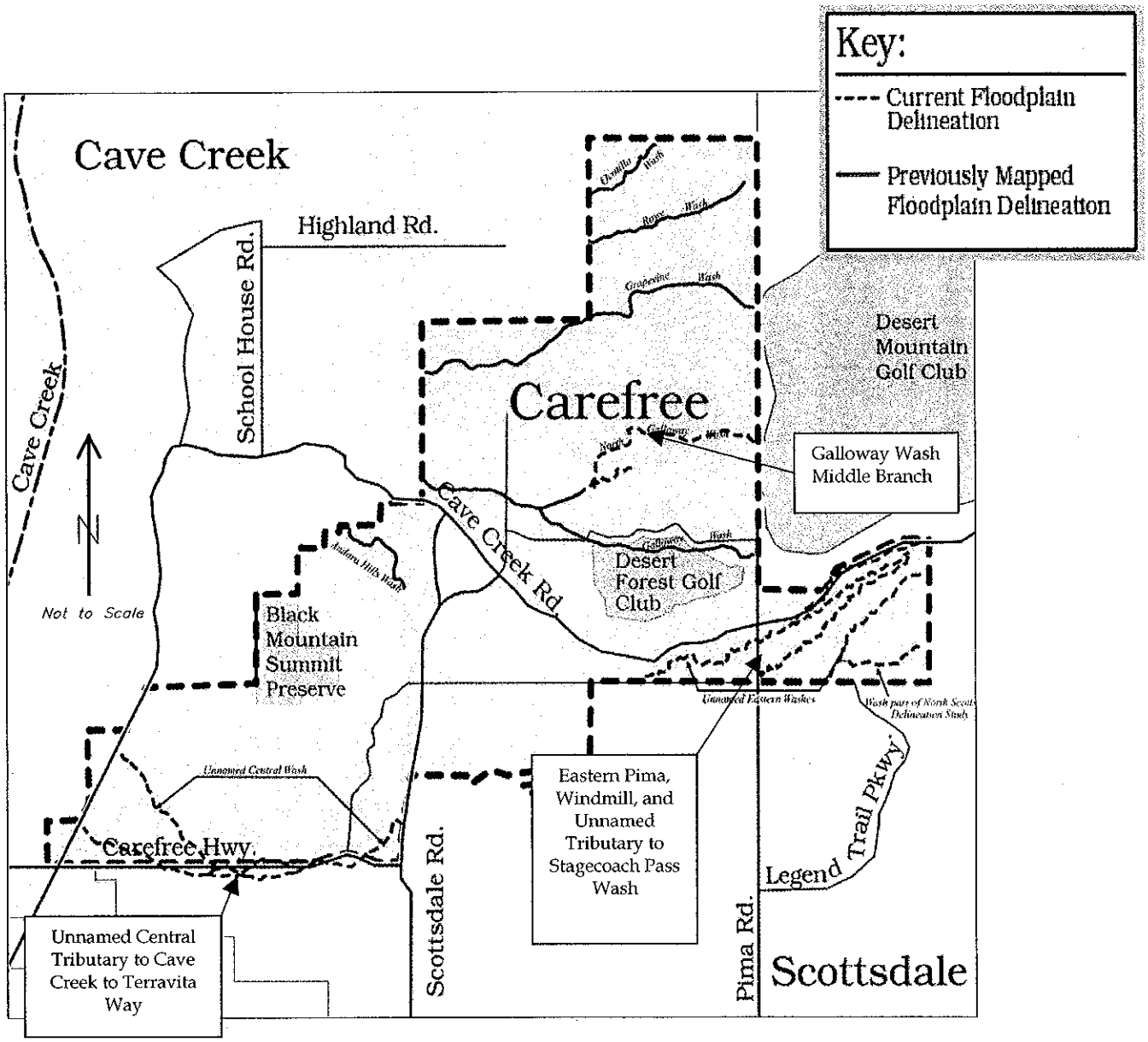


FIGURE 21. FLOODPLAIN DELINEATIONS

SECTION 6

Supplemental Documents

The Carefree DMP contains four reports included as appendices of this report. The following sections describe the purpose and content of these reports.

6.1 Flood Accessibility Emergency Routes Evaluation

Appendix C of this DMP contains the *Flood Accessibility Emergency Routes Evaluation* document. This document investigates access problems that may occur in the Town during flood events. Drainage crossings at streets were analyzed for the depth and velocity of water flow over roadways during the 100-year flood event.

For the purpose of the DMP, a roadway in Carefree is considered passable when road overflows are less than 1 foot in depth. A secondary criteria is that if flow over the road is 1.0 feet in depth or more but less than 30 lots are inaccessible during a flood event, and no lot is inaccessible for more than 10 hours per criteria developed by the FCDMC then the roadway was placed on the impassable list but not recommended for improvements. There are 16 other road crossings that currently violate the Town's new construction criteria for flow depth over the road for the 100-year flood. (The Town uses the FCDMD Drainage Design Manual Volume II for roadway drainage design criteria.) However, the depth at these crossings is below the threshold of 1.0 feet of depth used in the Flood Accessibility Emergency Routes Evaluation (FAERE). See the FAERE for more information about these crossings.

The analysis of the existing conditions in the Town indicate that only 67 percent of all of the parcels in the Town have access during a 100-year flood. The report contains three access plan stages: improvement of the 7 advanced design sites (90 percent of Town accessible), improvement of another 2 sites to meet the project criteria (95 percent of Town accessible), and complete accessibility to all sites within the Town (100 percent of Town accessible).

6.2 Engineering Design Guidelines

Appendix D of this DMP contains the *Engineering Design Guidelines* document, prepared for the use of the Town, owners, and developers when considering future improvements. The purpose of the guidelines is to provide the criteria and procedures for the evaluation, planning, and design of preferred stream corridor and stormwater management alternatives. The guidelines should facilitate the planning, review, and design policies during the development and design process to ensure that this goal is met.

The design guidelines cover delineations of erosion hazard zones, low impact development alternatives, structural drainage improvement guidelines, aesthetic design guidelines, and generic design elements. Plans are included for the preliminary design of drainage improvement structures that includes preferred design elements.

6.3 Inspection, Maintenance, and Monitoring Plan

Appendix E of this DMP, contains the *Inspection, Maintenance, & Monitoring Plan* for the Town. The purpose of this plan is to provide the Town with tools for monitoring high-risk flood-prone areas, and maintaining drainage facilities after storm events. This includes the removal of sediment and debris from roadways and structures before, during, and after storm events. This report identifies specific measuring sites, and includes forms for the Town's personnel to use during inspection activities. Also see Appendix I *Wash Access Study* for illustrations of recommended pull-outs for maintenance parking.

6.4 Implementation and Funding Plan

Appendix F of this DMP contains the *Implementation and Funding Plan* for the Carefree DMP. This plan was developed to help the Town implement the results of this project, and identifies potential funding sources for the construction of the proposed improvements. An implementation flow chart was created as part of this report that gives the steps that the Town should follow when implementing a DMP.

SECTION 7

Public Involvement

Public involvement was an important component of the DMP. Three public meetings and four Town Council presentations were given during the development of the plan. Information was gathered from the public during these meetings, including photos during flood events and listings of problem areas. Two flyers were created for the project and posted at Town Hall to disseminate information to the general public. Additionally, written notification was sent to all property owners within 200 feet of the floodplains delineated as part of this project. Throughout this project, individual meetings were held with owners, engineers and/or planners representing the interests of development projects and floodplain issues.

Records of the public involvement components are contained in the *Technical Data Notebook* for the floodplain delineation portion of the project.

SECTION 8

References

Arizona Department of Water Resources (ADWR), Engineering Division, Flood Management Section. 1996. *State Standard for Watercourse System Sediment Balance (SS 5-96).* September.

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Maricopa County, Arizona. 1996. Drainage Design Manual for Maricopa County, Volume 2, Hydraulics.

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Appendix A
Environmental Documents

Preliminary Initial Site Assessment

Final Report

Preliminary Initial Site Assessment
Carefree Drainage Master Plan

Submitted to

Flood Control District of Maricopa County

2801 West Durango
Phoenix, AZ 85009

January 2003

Submitted by

2625 South Plaza Drive
Suite 300
Tempe, Arizona 85285

CH2MHILL

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Acronyms

ADEQ	Arizona Department of Environmental Quality
ADOT	Arizona Department of Transportation
ADWR	Arizona Department of Water Resources
AMA	Active Management Area
ASTM	American Society for Testing and Materials
bgs	below ground surface
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act of 1980
CERCLIS	Comprehensive Environmental Response, Compensation, and Liability Information System
CORRACTS	RCRA Corrective Action
DMP	Drainage Master Plan
DTW	depth to water
EDR	Environmental Data Resources, Inc.
EPA	(U.S.) Environmental Protection Agency
ERNS	Emergency Response Notification System
FCDMC	Flood Control District of Maricopa County
LUST	leaking underground storage tank
NPL	National Priorities List
PISA	Preliminary Initial Site Assessment
RCRA	Resource Conservation and Recovery Act
ROW	Right-of-way
Town	Town of Carefree
TSD	treatment, storage, and disposal
UST	underground storage tank

Executive Summary

CH2M HILL conducted a Preliminary Initial Site Assessment (PISA) of the locations identified in the Carefree Drainage Master Plan (DMP) Study. These sites are located within the town limits of Carefree, Maricopa County, Arizona. The overall objective of this project is to study and provide recommendations for improvements to drainages within the Town of Carefree (Town). There are seven roadway/wash crossings and two drainages (Galloway Wash and Stagecoach Pass Tributary) identified in the DMP study. The DMP study was commissioned by the Flood Control District of Maricopa County (FCDMC). The Town would conduct actual drainage improvements.

The objective of this PISA is to provide an opinion of the potential for recognized environmental conditions (i.e., the presence or likely presence of hazardous substances or petroleum products) at the nine sites. The PISA was based on an analysis of findings from a set of specific environmental investigation tasks derived from the American Society for Testing and Materials (ASTM) standards for site assessments. This report documents PISA activities and findings for the property associated with the improvements described above.

The following environmental conditions were identified for the sites:

- Six unmappable sites were identified, all of which pose a low potential impact:
  - Cave Creek Landfill, which is greater than 1 mile from the project area and was listed on CERCLIS-NFRAP (Comprehensive Environmental Response, Compensation, and Liability Information System Federal Superfund No Further Remedial Action Planned)
  - Carefree Cleaners, Janson Cleaners, and AT&T Co., which were identified as Small Quantity Generators of hazardous waste
  - T&T Cave Creek RS and AT&T Communications, which have registered underground storage tanks (USTs)
- Seven mapped sites were identified:
  - Two LUST sites
    1. The Arankis/Carefree Shell near Galloway Wash, south of Site 213, which contains two leaking underground storage tank (LUST) sites, one of which is closed
    2. Sky Ranch Airport at Carefree, south of Galloway Wash, which contains one closed LUST
  - Five UST sites
    3. Cave Creek Main Co. near Galloway Wash, which shows that a registered UST was removed at the location

4. Desert Forest Golf Club southwest of Galloway Wash,
5. Sky Ranch Airport south of Galloway Wash, which shows that two registered tanks were removed at this location and that there are two active registered tanks at this location
6. Arankis/Carefree Shell near Galloway Wash south of Site 213, which shows that one registered tank was removed and that there are three active registered tanks at this location
7. Skyranch near Galloway Wash, which shows that one registered tank was removed and that there is one active registered tank at this location

- None of the sites are considered to pose a significant environmental impact; however, it is recommended that the status of the open LUST file at Arankis/Carefree Shell be investigated prior to initiating work at Site 213.
- During a December 2002 site visit to the property, no recognized environmental conditions were observed by CH2M HILL personnel. In addition, no evidence of recognized environmental conditions was observed at adjacent properties during the site visit.
- No significant commercial or industrial development was noted within the area in the review of historic aerial photographs. No visible signs of potential sources of hazardous substances were identified.

Based on the environmental conditions identified above, the following **potential** environmental issues are identified for the property:

- Groundwater and/or soil contamination resulting from a LUST at the Arankis/Carefree Shell. This potential condition is most likely to occur at properties adjacent to the Arankis/Carefree Shell. Therefore, groundwater or soil sampling at any site other than adjacent to or in the immediate vicinity of this gas station to address this potential environmental condition is not recommended.

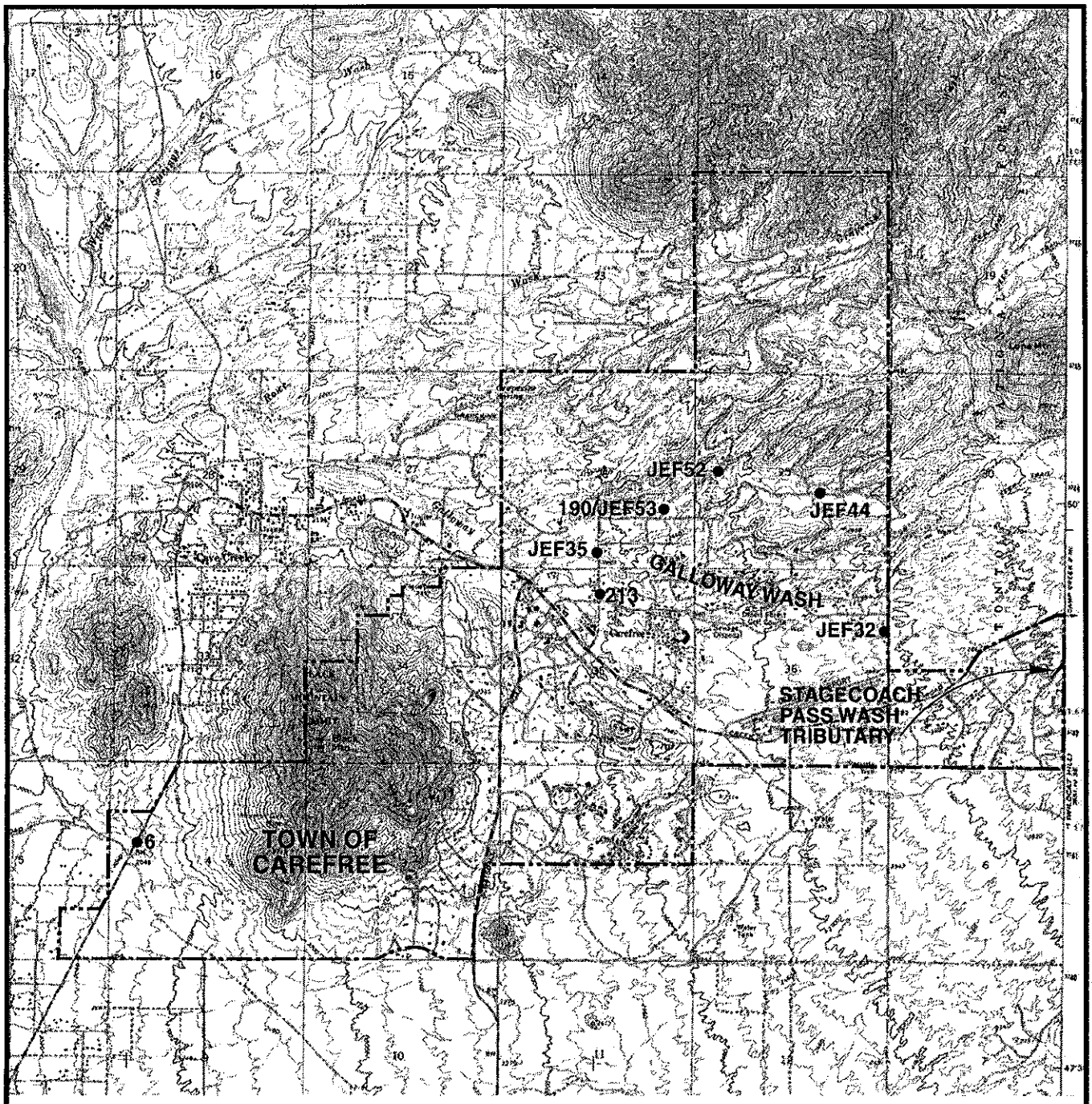
SECTION 1

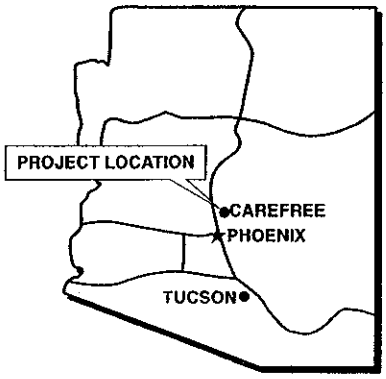
Introduction

This report presents the results of the Preliminary Initial Site Assessment (PISA) of the locations identified in the Carefree Drainage Master Plan (DMP) Study. These sites are located within the town limits of Carefree, Maricopa County, Arizona. There are seven roadway/wash crossings and two drainages (Galloway Wash and Stagecoach Pass Tributary) identified in the DMP study. Figure 1 shows the project vicinity and site locations.

The objective of this PISA is to provide an opinion of the potential for recognized environmental conditions (i.e., the presence or likely presence of hazardous substances or petroleum products) at the sites. The PISA is based upon an analysis of findings from a set of specific environmental investigation tasks derived from the American Society for Testing and Materials (ASTM) standards for environmental site assessments.

> The term "recognized environmental conditions" means the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water of the property. The term includes hazardous substances or petroleum products even under conditions in compliance with laws. The term is not intended to include de minimis conditions that generally do not present a material risk of harm to public health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies (ASTM).





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NOT TO SCALE

FIGURE 1
LOCATION MAP AND SITE LOCATIONS

W012003002RDD_01 (1/9/03)

CH2MHILL

SECTION 2

Site Description

2.1 Location

The proposed project is to construct drainage improvements within the limits of the Town of Carefree (Town), Maricopa County, Arizona. The DMP study identified seven wash/roadway crossings and two washes as needing some type of engineered drainage improvements (i.e., culverts, bridges, bank stabilization, etc.). All of these sites are located within the limits of the Town.

2.2 Site and Vicinity Characteristics

The vicinity of the project area is characterized by undeveloped desert, and residential and commercial development. With the exception of Black Mountain Summit (Elevation 3396 ft.), the general topography of the Town is hilly, with elevations ranging from 2,200 to 3,200 at the study locations.

2.3 Description of Structures, Roads, and Other Site Improvements

Improvements may include, but are not limited to, installation of culverts, bridges, and/or bank stabilization. Roads that may be affected by the recommended drainage improvements are:

- Cave Creek Road at Canyon Creek Circle (Site 6)
- Carefree Drive at Bloody Basin Road (Site 213)
- Tranquil Trail at Sundance Trail (Site JEF 35)
- Rising Sun Road west of 80th Street (Site 190/JEF 53)
- Golden Spur Lane north of Rising Sun Road (Site JEF 52)
- Sombrero Road south of Cow Track Drive (Site JEF 44)
- Pima Road at Short Putt Place (Site JEF 32)

Two linear corridors represented by washes would also be affected: Galloway Wash from the west to east limits of the Town, and a tributary to Stagecoach Pass Wash between Romping Road and Tree Lined Trail.

2.4 Current Uses of the Properties

The properties associated with the DMP study sites are generally undeveloped desert or residential. Some of the sites may be under private ownership, however the roadway crossing locations are generally all within established Town easements. Work within the washes may encroach on private property and require a construction or drainage easement.

2.5 Past Use of the Properties

The records review for this PISA revealed that the property sites were undeveloped desert land.

2.6 Current and Past Uses of Adjoining Property

Current and past uses of areas adjacent to the study area are described as follows:

- **Adjoining Property East of Carefree.** The majority of this area is either undeveloped desert or residential development within the City of Scottsdale. Historic aerial photographs for this area indicate that the majority of these properties have been undeveloped open space.
- **Adjoining Property West of Carefree.** The majority of this area is either undeveloped desert or residential development within the Town of Cave Creek. Historic aerial photographs for this area indicate that the majority of these properties have been undeveloped open space.
- **Adjoining Property North of Carefree.** The majority of this area is either undeveloped desert or residential development within Maricopa County. Historic aerial photographs for this area indicate that the majority of these properties have been undeveloped open space.
- **Adjoining Property South of Carefree.** The majority of this area is either undeveloped desert or residential development within the City of Scottsdale. Historic aerial photographs for this area indicate that the majority of these properties have been undeveloped open space.

SECTION 3

Scope of Work

This PISA is limited to three elements specified in the ASTM guidelines for conducting environmental site assessments (ASTM, 1997):

- Site reconnaissance
- Records review
- Report preparation

3.1 Site Reconnaissance and Current Photographs

A representative from CH2M HILL visited the sites in December 2002. Photographs of each site are included in Appendix B. The purpose of this site reconnaissance was to:

- Visually inspect the property
- Assess current land usage
- Identify recognized environmental conditions

The Town area consists generally of residential development and undeveloped desert. The Town comprises approximately 10 square miles and is generally located between Cave Creek Road to the west, Pima Road to the east, Carefree Highway to the south, and Rockaway Road (if extended) to the north. The natural landscape is characterized by scattered buttes and rocky outcroppings rising abruptly from valley floors. Stormwater generally drains via natural features (washes) throughout the study area. No evidence of recognized environmental conditions was observed during the site reconnaissance.

3.2 Records Review

3.2.1 Review of Regulatory Agency Databases

To identify potentially contaminated sites located at or adjacent to the sites, an automated search of regulatory agency databases was conducted by Environmental Data Resources, Inc., dated December 12, 2002. An individual records search was performed for each of the following sites: Galloway Wash (includes JEF 32 and JEF 35), Stagecoach Pass Wash Tributary, 6, 213, 190/JEF 53, JEF 52, and JEF 44. The search area consisted of a 1-mile radius from the centerline/centerpoint. The results of the database search are summarized in Section 4.1. The database search reports are provided as Appendix A.

3.2.2 Arizona Department of Water Resources

Available Arizona Department of Water Resources (ADWR) maps were reviewed for groundwater conditions within the Town (ADWR, 1995). The Town is located within the Phoenix Active Management Area (AMA) and depth to water (DTW) ranges from approximately 100 feet below ground surface (bgs) to approximately 300 feet bgs.

3.2.3 Fire Departments

CH2M HILL spoke with Ms. Julia Gruetzmacher with the Rural Metro Fire Department on January 8, 2003. Ms. Gruetzmacher indicated that there are two fire stations (both located in Cave Creek) that service the Town:

1. Station 820 at 9320 E. Cave Creek Road
2. Station 821 at 7174 E. Sleepy Hollow

No records review was performed with Rural Metro since they file a report with the Arizona Department of Environmental Quality (ADEQ) for all hazardous material incidents (telephone record, Julia Gruetzmacher, January 8, 2003). Any reportable incidents are ultimately included in the Emergency Response Notification System database.

3.2.4 Review of Historic Aerial Photographs

Historic aerial photographs indicate that prior to primary residential development, the area was characterized by open desert.

3.2.5 Chain-of-Title Search

Most of the drainage improvements (at wash/roadway crossings) will be done inside the existing right-of-way (ROW). No new ROW will likely be required at these locations. Some of the sites are located on or impact private property, which will likely require that a drainage or construction easement be established. Property ownership is provided in the final DMP study report.

3.3 PISA Limitations and Exceptions

CH2M HILL has prepared this PISA in a manner consistent with generally accepted environmental assessment practices and limitations stated herein. All findings and conclusions stated in this report are based on facts and circumstances as they existed in December 2002 (for the PISA); thus, these findings or conclusions are not necessarily indicative of future conditions or operating practices. The CH2M HILL staff who performed the PISA are not attorneys; therefore, this report is not a legal representation or interpretation of environmental laws, rules, regulations, or policies of local, state, or federal agencies.

It was beyond CH2M HILL's scope of work to determine the presence of:

- Materials containing asbestos
- Radon
- Lead-based paint
- Lead in drinking water
- Jurisdictional wetlands
- Issues associated with worker health and safety
- Issues pertaining to compliance with environmental regulations
- Liabilities associated with the offsite management of solid or hazardous wastes

In addition, no interviews were performed for this PISA. This report is based, in part, on unverified preliminary information supplied to CH2M HILL from several sources during

the project; therefore, we cannot guarantee its completeness or accuracy. CH2M HILL has not performed any surface or subsurface sampling and, therefore, cannot give any assurance as to the absence or presence of surface or subsurface contamination. CH2M HILL assumes no responsibility for conditions we were not authorized to investigate, or which were not in our specific scope of work.

No investigation is thorough enough to exclude the potential presence of hazardous substances at a given site. If hazardous substances or hazardous conditions were not identified during the completion of the scope of services, such a finding should not be construed as a guarantee or representation, either expressed or implied, that such substances or conditions are absent.

Any opinions or recommendations presented apply to site conditions existing when services were performed. CH2M HILL cannot report on or accurately predict events that may change the site conditions after the described services are performed, whether occurring naturally or caused by external forces.

3.4 Special Terms and Conditions

This report was prepared for the exclusive use of the Flood Control District of Maricopa County (FCDMC) for the purpose of evaluating the requirements associated with constructing drainage improvements within the Town. No warranty, expressed or implied, is made. CH2M HILL makes no representation regarding whether this investigation constitutes "all appropriate inquiry into the previous ownership and uses of the property consistent with good commercial or customary practice" as defined in Section 101(35)(B) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA). Other than the FCDMC, the Town may benefit from the information presented in this report, however no person or entity other than FCDMC (for whom this report was prepared) is entitled to rely upon this report without CH2M HILL's written authorization.

SECTION 4

Records Review

4.1 Standard Environmental Database Sources

The purpose of the records review was to identify relevant environmental conditions associated with each study site and its adjacent property. CH2M HILL contracted Environmental Data Resources, Inc. (EDR), to perform a computer search of records available from regulatory agencies (EDR, Inc., 2002). These agencies included the U.S. Environmental Protection Agency and ADEQ. The computer search was conducted to identify nearby sites with potential environmental concerns. The search radius was 1 mile from the centerline or centerpoint of each site (the Galloway Wash search includes JEF 32 and JEF 35). A complete copy of the search reports is provided in Appendix A.

A standard environmental records review was conducted to obtain any evidence of recognized environmental conditions specifically for the properties in the vicinity of the identified study sites. To help assess the potential for environmental conditions resulting from migrating hazardous substances, records of nearby properties were also reviewed.

Standard environmental record sources and their approximate minimum search distances are specified by ASTM standard practices (1997). The standard distances for each governmental record source are listed in Table 1.

TABLE 1
Standard Environmental Record Search Distances

Government Source	Approximate Minimum Search Distance	Number of Sites Identified
Federal NPL and Proposed NPL sites	1.0 mile	0
Federal Corracts	1.0 mile	0
Federal CERCLIS-NFRAP	0.25 mile	1
Federal CERCLIS	0.5 mile	0
Federal NPL and Proposed NPL	1.0 mile	0
Federal RCRIS TSD	0.5 mile	0
Federal RCRIS Hazardous Waste Generators	0.25 mile	4
Federal ERNS	Property only	0
State-equivalent NPL (WQARF)	1.0 mile	0
State Hazardous Waste	1.0 mile	0
State landfill and/or solid waste disposal sites	0.5 mile	0
State leaking UST	0.5 mile	2
State-registered UST	0.25 mile	6
Total (does not include Department of Defense DOCKET sites)		**4**

TABLE 1
Standard Environmental Record Search Distances

Notes:
CERCLIS = Comprehensive Environmental Response, Compensation and Liability Information System
CORRACTS = Facilities subject to Corrective Action under RCRA
ERNS = Emergency Response Notification System
NFRAP = No Further Remedial Action Planned
NPL = National Priorities List
RCRIS = Resource Conservation and Recovery Information System
TSD = Treatment, Storage, and Disposal Facility
UST = underground storage tank

The database report identifies both known mappable sites with environmental concerns within ASTM search distances specified as well as unmappable sites that "may or may not be within the search radius." Sites are included in the unmappable sites category when the database search records cannot positively identify the site as not being within the search limits.

4.1.1 Unmappable Sites

The database search identified six (6) unmappable sites:

- Cave Creek Landfill, which was listed on the CERCLIS-NFRAP (Federal Superfund No Further Remedial Action Planned) list
- Carefree Cleaners, Janson Cleaners, and AT&T Co., which were identified as a Small Quantity Generators of hazardous waste
- AT&T Cave Creek RS and AT&T Communications, which have registered USTs.

A review of local street maps and information provided by EDR indicated that the Cave Creek Landfill is greater than 1 mile from the study sites and no further remedial action is planned; therefore, it is considered to have a low potential impact. The Carefree Cleaners, Janson Cleaners, and AT&T Co. are simply registered as generators of hazardous waste (no environmental releases are indicated). Therefore, they are considered to have a low potential impact. AT&T Cave Creek RS and AT&T Communications have registered USTs (no environmental releases are indicated). Therefore, they are considered to have a low potential impact.

4.1.2 Mappable Sites

The EcoSearch database records search indicated there are seven known (mappable) sites with environmental conditions. Mappable sites are discussed below. (A complete description of the database listings that were queried as well as the date of records release is provided in the individual database reports contained in Appendix A.)

Arizona Leaking Underground Storage Tank List

The Arizona LUST list includes information on underground storage tanks with reported releases into the environment. Date Released: 10/30/2002.

- **Two LUST sites** were reported within the search area.
  - The Arankis/Carefree Shell is located approximately less than ½ mile south of Site 213 at 7201 East Cave Creek Road. It appears that there were two leaking underground tanks identified for this location, and both LUST files were opened on 12/21/1994. One tank (LUST No. 3835.01) was closed on 3/31/2000 with the notation that the soil clean-up levels meet the Tier I threshold. The other (LUST No. 3835.02) has not been closed and the record indicates undefined or unknown soil contamination.
  - Sky Ranch Airport at Carefree, which is located approximately ½ mile south of Galloway Wash at 8302 East Cave Creek Road. A tank (LUST No. 0485.01) was closed on 11/10/1989 with the notation that the soil clean-up levels meet the Tier I threshold. No file review was conducted for these sites.

Arizona Underground Storage Tank List

The Arizona UST list includes information on registered underground storage tanks in the State of Arizona. It is updated annually by ADEQ. Date Released: 2/6/2002.

- **Five UST sites** were reported within the search area. No file review was conducted for these sites.
  - Cave Creek Main Co. is located less than ¼ mile south southwest of Site 213 at 7153 East Cave Creek Road. Records indicate that one registered tank was removed at this location on 9/1/1990.
  - Desert Forest Golf Club is located less than ¼ mile southwest of Galloway Wash at 37207 North Mule Train Road. Records indicate that one registered tank was removed at this location on 11/10/1989.
  - Sky Ranch Airport is located approximately ½ mile south of Galloway Wash at 8302 East Cave Creek Road. Records indicate that two registered tanks were removed at this location on 9/11/1989, and that there are two active registered tanks at this location.
  - Arankis/Carefree Shell is located approximately less than ½ mile south of Site 213 at 7201 East Cave Creek Road. Records indicate that one registered tank was removed at this location on 12/8/1994, and that there are three active registered tanks at this location.
  - Skyranch is located less than one mile east southeast of Galloway Wash at 8726 East Autoplane Drive. Records indicate that one registered tank was removed at this location, and that there is one active registered tanks at this location.

SECTION 5

Conclusions

5.1 Conclusions

The following summarizes conclusions regarding conditions identified for the project area:

- Past land use records indicate that the property was primarily undeveloped land.
- Current land use indicates that the property is undeveloped land and residential development, with some light commercial development (gas stations, etc.).

The following environmental conditions were identified in the project area:

- Six (6) unmappable sites were identified, all of which pose a low potential impact:
  - Cave Creek Landfill which is more than one mile from the project area and was listed on for CERCLIS-NFRAP (Federal Superfund No Further Remedial Action Planned),
  - Carefree Cleaners, Janson Cleaners, and AT&T Co., which were identified as a Small Quantity Generators of hazardous waste
  - AT&T Cave Creek RS and AT&T Communications which have registered USTs.
- Seven (7) mapped sites were identified:
  - Arankis/Carefree Shell near Galloway Wash and Site 213 that contains two LUST sites, one of which is closed
  - Sky Ranch Airport at Carefree near Galloway Wash contains one closed LUST site
  - Cave Creek Main Co. near Galloway Wash, which shows that one registered UST was removed at the location
  - Desert Forest Golf Club near Galloway Wash, which shows that a registered tank was removed at this location
  - Sky Ranch Airport near Galloway Wash, which shows that that two registered tanks were removed and that there are two active registered tanks at this location
  - Arankis/Carefree Shell near Galloway Wash and Site 213, which shows that one registered tank was removed and that there are three active registered tanks at this location
  - Skyranch near Galloway Wash which shows that one registered tank was removed and that there is one active registered tank at this location.

- None of the sites are considered to pose a significant environmental impact; however, it is recommended that the status of the open LUST file at Arankis/Carefree Shell be investigated prior to initiating work at Site 213.
- During a December 2002 site visit to the property, no recognized environmental conditions were observed by CH2M HILL personnel. In addition, no evidence of recognized environmental conditions was observed at adjacent properties during the site visit.
- No significant commercial or industrial development was noted within the area in the review of historic aerial photographs. No visible signs of potential sources of hazardous substances were identified.

5.2 Potential Recognized Environmental Conditions and Recommendations

This report concludes that the following **potential**, recognized environmental conditions were identified in the project area:

- Groundwater and/or soil contamination resulting from a leaking underground storage tank at the Arankis/Carefree Shell. This potential condition is most likely to occur at properties adjacent to the Arankis/Carefree Shell. Therefore, groundwater or soil sampling at any site other than adjacent to or in the immediate vicinity of this gas station to address this potential environmental condition is not recommended.

SECTION 6

References

American Society for Testing and Materials (ASTM). 1997. *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process.* E1527-97. Approved March 10, 1997.

Arizona Department of Water Resources (ADWR). 1995. *Maps Showing Groundwater Conditions in the Phoenix Active Management Area, Maricopa, Pinal, and Yavapai Counties, Arizona -1992.* By B.A. Hammett and R.L. Herther. Department of Water Resources Hydrologic Map Series Report Number 27. Phoenix, Arizona. Prepared in cooperation with the U.S. Geological Survey.

Environmental Data Resources, Inc. 2002. *EDR Environmental Site Assessment, Priority Risk Report, (Report ID: 896955.1s), Carefree Drainage Master Plan Site 6, Carefree, Arizona 85377, December 12, 2002.*

_____ *EDR Environmental Site Assessment, Priority Risk Report, (Report ID: 896955.2s), Carefree Drainage Master Plan Site 190/JEF 53, Carefree, Arizona 85377, December 12, 2002.*

_____ *EDR Environmental Site Assessment, Priority Risk Report, (Report ID: 896955.3s), Carefree Drainage Master Plan Site JEF 52, Carefree, Arizona 85377, December 12, 2002.*

_____ *EDR Environmental Site Assessment, Priority Risk Report, (Report ID: 896955.4s), Carefree Drainage Master Plan Site JEF 44, Carefree, Arizona 85377, December 12, 2002.*

_____ *EDR Environmental Site Assessment, Priority Risk Report, (Report ID: 896955.5s), Carefree Drainage Master Plan Site 213, Carefree, Arizona 85377, January 8, 2003.*

_____ *EDR Environmental Site Assessment, Priority Risk Report, (Report ID: 896955.6s), Carefree Drainage Master Plan Site Stagecoach Pass Wash Tributary, Carefree, Arizona 85377, December 12, 2002.*

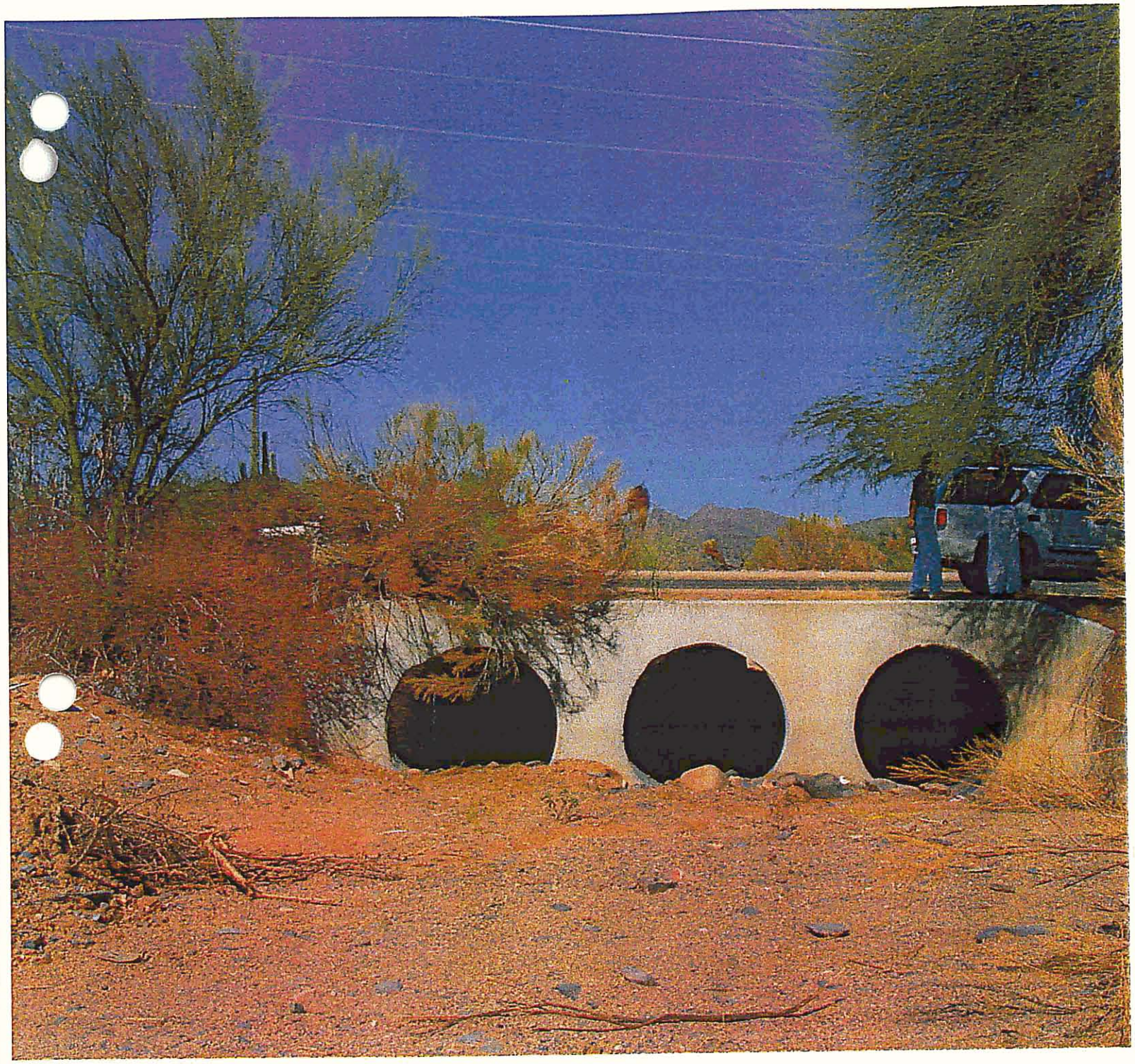
_____ *EDR Environmental Site Assessment, Priority Risk Report, (Report ID: 896962.1s), Carefree Drainage Master Plan Site Galloway Wash, Carefree, Arizona 85377, December 12, 2002.*

Gruetzmacher, Julia. Rural Metro Fire Department Telephone Conversation (480-994-3886), January 8, 2003.

Rupp Aerial Photography. Historic aerial photographs Town of Carefree area through present.

Site JEF 35

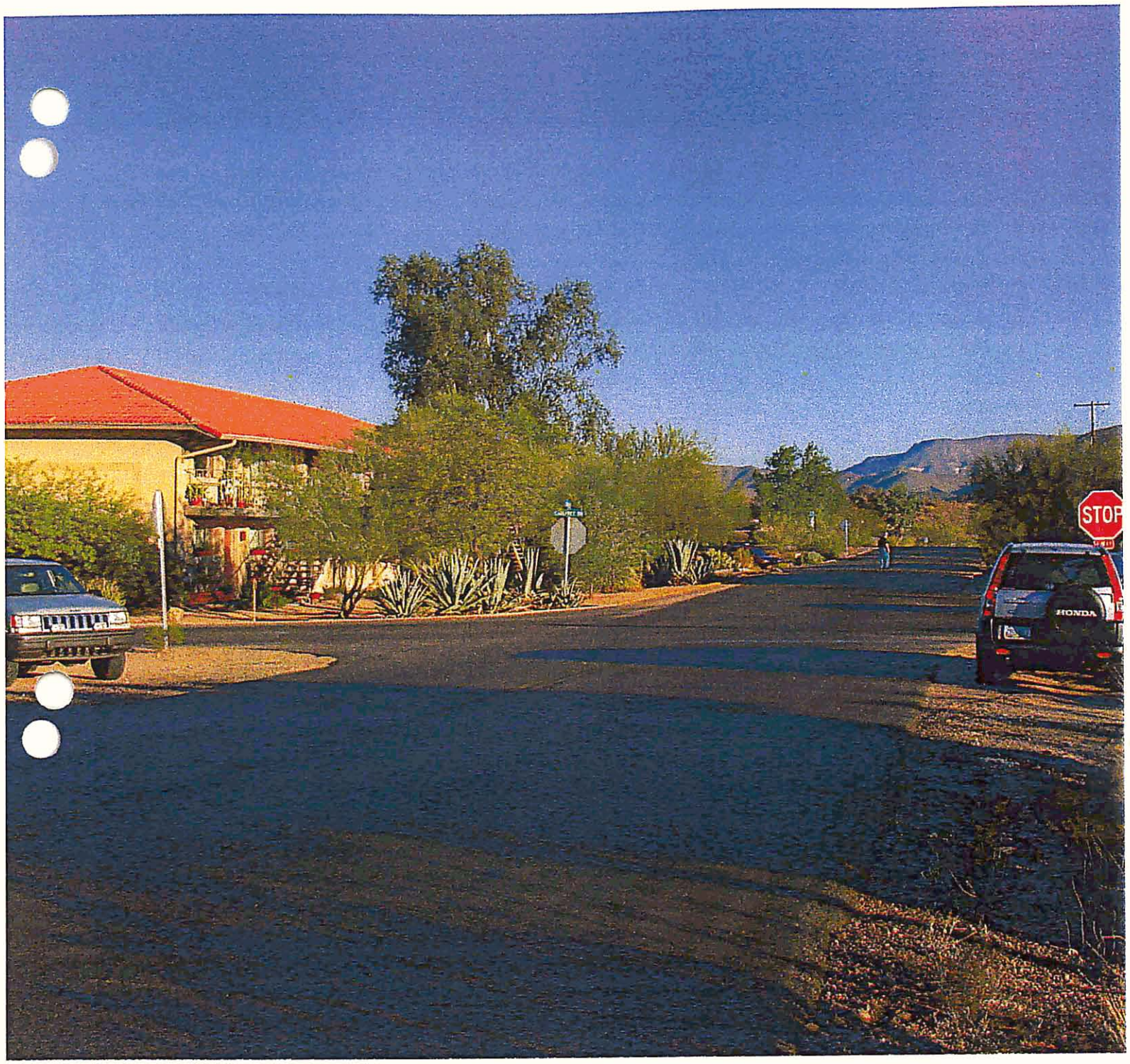
Site JEF 32



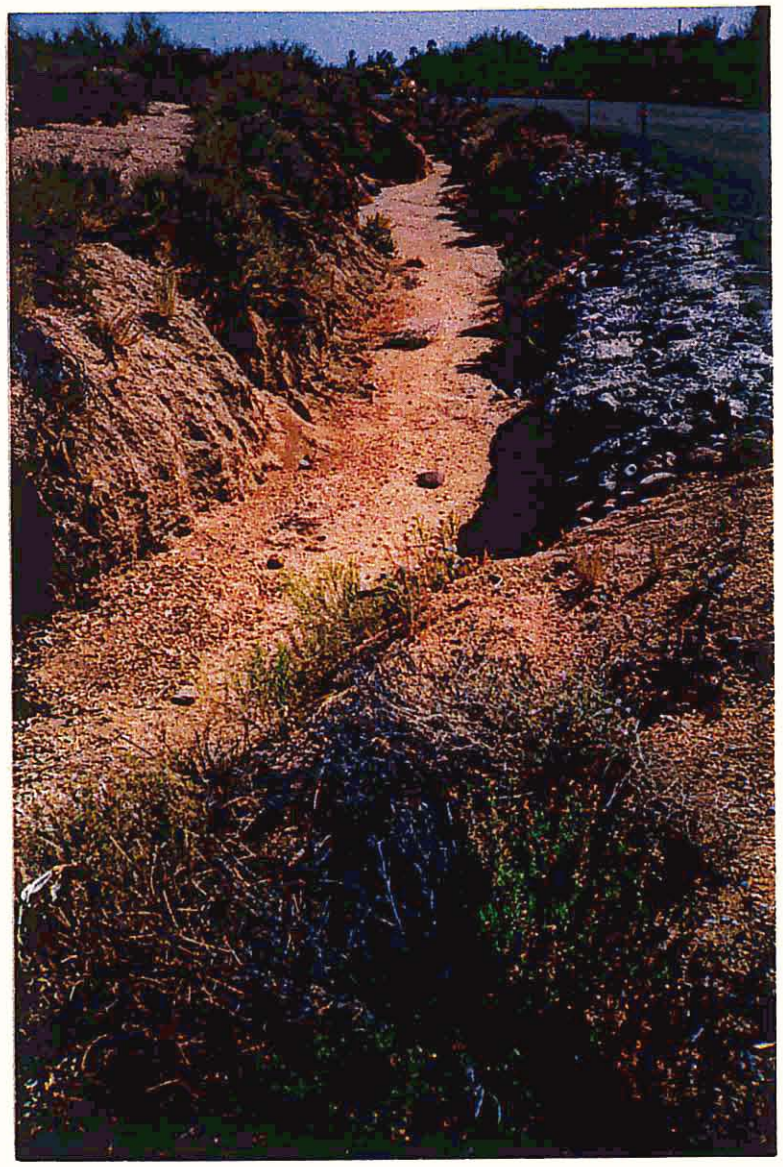
Site 6

Site 190/JEF 53

Galloway Wash



Site 213



Tributary to Stagecoach Pass Wash

Site JEF 44

Site JEF 52

The EDR Radius Map
with GeoCheck®

Carefree Drainage Master Plan
213
Carefree, AZ 85377

Inquiry Number: 896955.5s

January 08, 2003

Environmental Data Resources, Inc.

***The* Source For Environmental Risk Management Data**

3530 Post Road
Southport, Connecticut 06890

Nationwide Customer Service

Telephone: 1-800-352-0050
Fax: 1-800-231-6802
Internet: www.edrnet.com

FORM-ACP

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Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc. (EDR). The report meets the government records search requirements of ASTM Standard Practice for Environmental Site Assessments, E 1527-00. Search distances are per ASTM standard or custom distances requested by the user.

TARGET PROPERTY INFORMATION

ADDRESS

213
CAREFREE, AZ 85377

COORDINATES

Latitude (North):	33.825900 - 33˚ 49' 33.2"
Longitude (West):	111.917300 - 111˚ 55' 2.3"
Universal Tranverse Mercator:	Zone 12
UTM X (Meters):	415113.6
UTM Y (Meters):	3743036.8

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property:	2433111-G8 CAVE CREEK, AZ
Source:	USGS 7.5 min quad index

TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the ASTM E 1527-00 search radius around the target property for the following databases:

FEDERAL ASTM STANDARD

NPL..... National Priority List
Proposed NPL..... Proposed National Priority List Sites
CERCLIS..... Comprehensive Environmental Response, Compensation, and Liability Information System
CERC-NFRAP..... CERCLIS No Further Remedial Action Planned
CORRACTS..... Corrective Action Report
RCRIS-TSD..... Resource Conservation and Recovery Information System
RCRIS-LQG..... Resource Conservation and Recovery Information System
RCRIS-SQG..... Resource Conservation and Recovery Information System
ERNS..... Emergency Response Notification System

STATE ASTM STANDARD

SPL..... Superfund Program List
SHWS..... ZipAcids List
SWF/LF..... Directory of Solid Waste Facilities
AZ WQARF..... Water Quality Assurance Revolving Fund Sites

EXECUTIVE SUMMARY

INDIAN UST..... Underground Storage Tanks on Indian Land

FEDERAL ASTM SUPPLEMENTAL

CONSENT..... Superfund (CERCLA) Consent Decrees
ROD..... Records Of Decision
Delisted NPL..... National Priority List Deletions
FINDS..... Facility Index System/Facility Identification Initiative Program Summary Report
HMIRS..... Hazardous Materials Information Reporting System
MLTS..... Material Licensing Tracking System
MINES..... Mines Master Index File
NPL Liens..... Federal Superfund Liens
PADS..... PCB Activity Database System
RAATS..... RCRA Administrative Action Tracking System
TRIS..... Toxic Chemical Release Inventory System
TSCA..... Toxic Substances Control Act
SSTS..... Section 7 Tracking Systems
FTTS..... FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

STATE OR LOCAL ASTM SUPPLEMENTAL

AST..... List of Aboveground Storage Tanks
AZ Spills..... Hazardous Material Logbook
AZ DOD..... Department of Defense Sites
WWFAC..... Waste Water Treatment Facilities
Aquifer..... Waste Water Treatment Facilities
Dry Wells..... Drywell Registration
AZ AIRS..... Arizona Airs Database

EDR PROPRIETARY HISTORICAL DATABASES

Coal Gas..... Former Manufactured Gas (Coal Gas) Sites

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified.

Elevations have been determined from the USGS 1 degree Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. EDR's definition of a site with an elevation equal to the target property includes a tolerance of +/- 10 feet. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property (by more than 10 feet). Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

EXECUTIVE SUMMARY

STATE ASTM STANDARD

LUST: The Leaking Underground Storage Tank Incident Reports contain an inventory of reported leaking underground storage tank incidents. The data come from the Department of Environmental Quality's LUST File Listing by Zip Code.

A review of the LUST list, as provided by EDR, and dated 10/30/2002 has revealed that there is 1 LUST site within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Dist / Dir	Map ID	Page
AVANKIS/CAREFREE SHELL	*7201 E CAVE CREEK RD*	*1/4 - 1/2 S*	*2*	*6*

UST: The Underground Storage Tank database contains registered USTs. USTs are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA). The data come from the Department of Environmental Quality's Arizona UST-DMS Facility and Tank Data Listing by City database.

A review of the UST list, as provided by EDR, and dated 02/06/2002 has revealed that there is 1 UST site within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Dist / Dir	Map ID	Page
CAVE CREEK MAIN CO #143040	7153 CAVE CREEK RD	1/8 - 1/4 SSW	1	6

EXECUTIVE SUMMARY

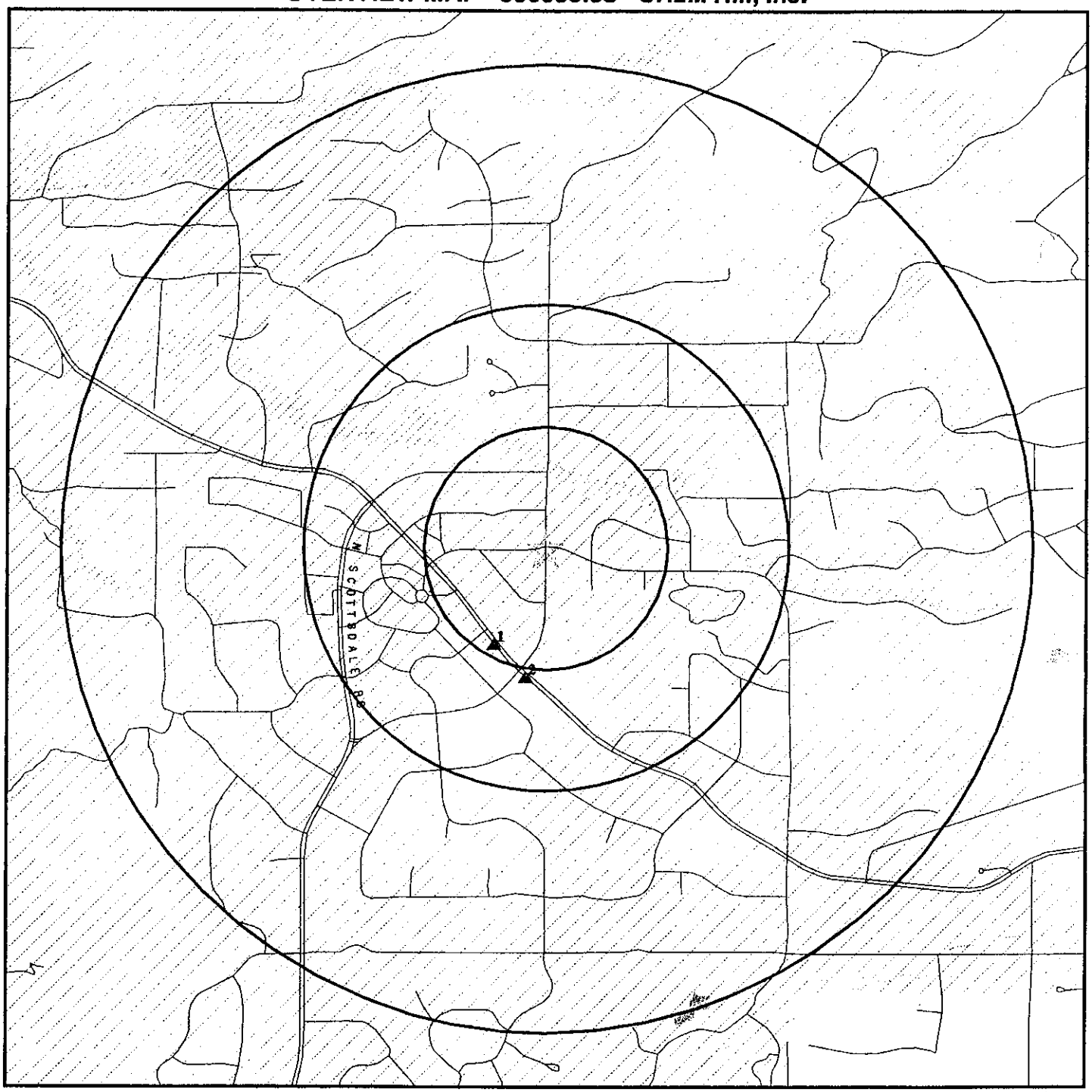
Due to poor or inadequate address information, the following sites were not mapped:

Site Name	Database(s)
WQ-GILA RIVER DDT	SHWS
GILA BEND	SHWS, SWF/LF
CAVE CREEK LDFL	CERC-NFRAP
DEER VALLEY	SWF/LF
CITY OF PHOENIX 22ND AVE.	SWF/LF
ARIZONA SAND & ROCK	SWF/LF
MARTORI FARMS	SWF/LF
QUEEN CREEK	SWF/LF, WWFAC
BEARDSLEY	SWF/LF
DEL RIO	SWF/LF, WWFAC
ARIZONA MEDICAL WASTE	SWF/LF
RESOURCE PROCESSING INC.	SWF/LF
LAYLOR MATERIALS	SWF/LF
UFI	SWF/LF
VAL VISTA	SWF/LF
WILLIAMS AIR FORCE BASE	SWF/LF
DEER VALLEY	SWF/LF
CITY OF MESA	SWF/LF
OLD TOWN DUMP	SWF/LF
GENERAL MOTORS PROVING GROUNDS	SWF/LF
CITY OF CHANDLER	SWF/LF
CHANDLER INT. #1 INTERIM	SWF/LF
TERRA QUEST	SWF/LF, WWFAC
CHANDLER INT. #3 INTERIM	SWF/LF
GOODYEAR - SUMP #1	SWF/LF
MORRISTOWN	SWF/LF
SALT RIVER/PIMA TRIBE/TRI-CITY	SWF/LF
CITY OF PHOENIX 19TH AVE.	SWF/LF
RAINBOW VALLEY	SWF/LF, WWFAC
NEW RIVER	SWF/LF
TOWN OF WICKENBURG	SWF/LF
SATORISE (EARTHWORKS)	SWF/LF
UNION ROCK CENTRAL AVE.	SWF/LF
REMAT/METCO RECYCLING FACILITY	SWF/LF
ALLIED WASTE SOUTHWEST REGIONAL	SWF/LF
CAVE CREEK	SWF/LF
GILA BEND	SWF/LF
NORTHWEST REGIONAL	SWF/LF
QUEEN CREEK	SWF/LF
WEINBERGER	SWF/LF
APS/PALO VERDE RUBBISH	SWF/LF
AGUILA	SWF/LF
BUCKEYE	SWF/LF, WWFAC
CITY OF GLENDALE	SWF/LF
ALLIED	SWF/LF
K & B TIRE CO.	SWF/LF
NORTHWEST REGIONAL	SWF/LF
ESTES	SWF/LF
AVONDALE	SWF/LF
CITY OF TEMPE	SWF/LF
40TH STREET LANDFILL	SWF/LF
CHANDLER INT. #2 INTERIM	SWF/LF
CITY OF PHOENIX 91ST AVE.	SWF/LF
27TH AVENUE	SWF/LF
DEER VALLEY LANDFILL	SWF/LF
LONE CACTUS LANDFILL	SWF/LF
PERRYVILLE	SWF/LF
CAVE CREEK, TOWN OF WWTP	Aquifer, WWFAC
CAMP CREEK - TONTO NATIONAL FOREST	WWFAC

EXECUTIVE SUMMARY

AT&T CAVE CREEK RS	UST
AT&T COMMUNICATIONS	UST
CAREFREE CLEANERS	RCRIS-SQG, FINDS
JANSON CLEANERS	RCRIS-SQG, FINDS

OVERVIEW MAP - 896955.5s - CH2M Hill, Inc.



- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Coal Gasification Sites
- National Priority List Sites
- Landfill Sites

0 1/4 1/2 1 Miles

- Power transmission lines
- Oil & Gas pipelines
- 100-year flood zone
- 500-year flood zone
- Dept. of Defense Sites
- Water Quality Assurance Revolving Fund Areas

TARGET PROPERTY:	Carefree Drainage Master Plan	CUSTOMER:	CH2M Hill, Inc.
ADDRESS:	213	CONTACT:	Monique Chaisson
CITY/STATE/ZIP:	Carefree AZ 85377	INQUIRY #:	896955.5s
LAT/LONG:	33.8259 / 111.9173	DATE:	January 08, 2003 3:24 pm

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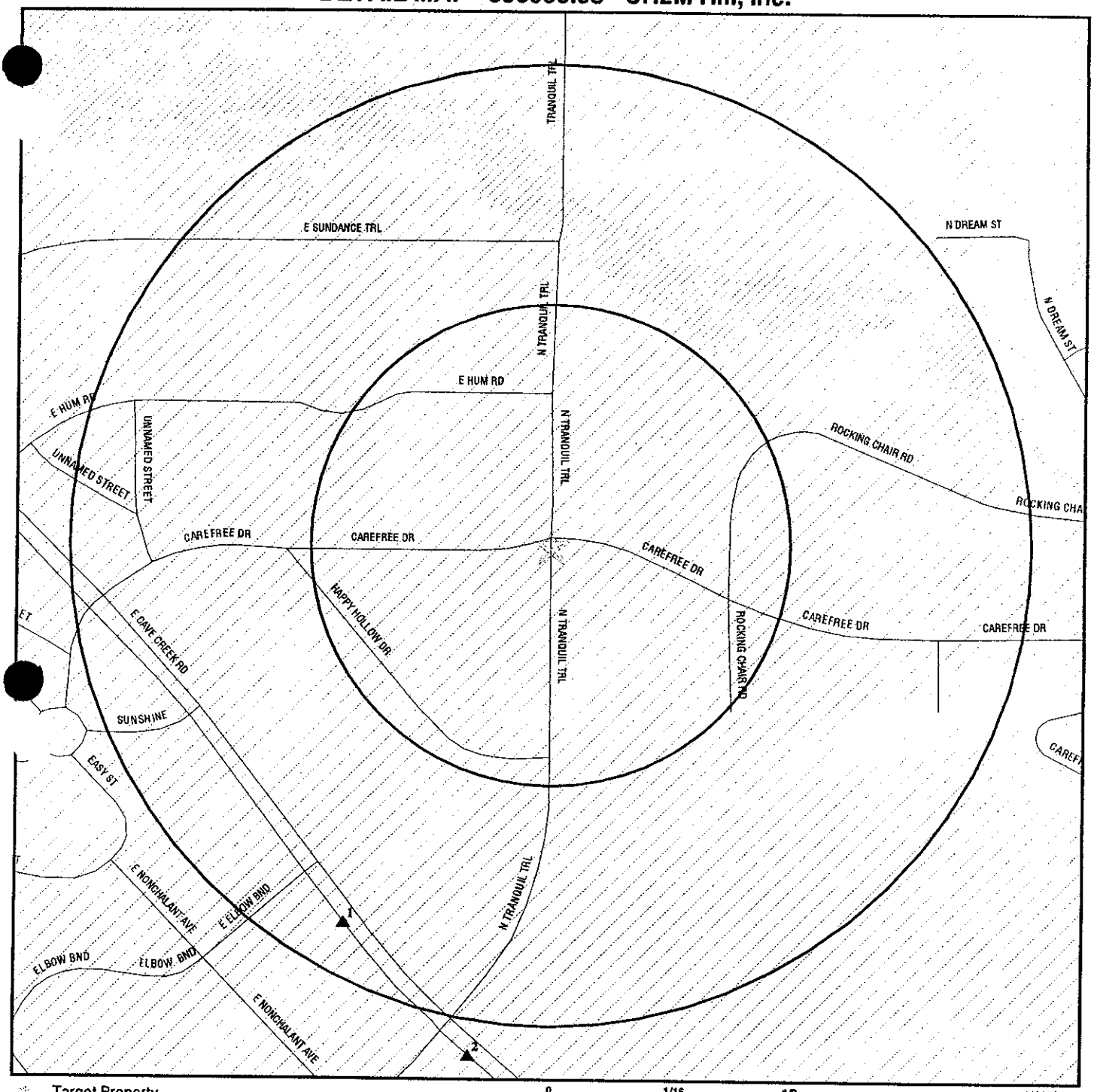
DETAIL MAP - 896955.5s - CH2M Hill, Inc.



- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Coal Gasification Sites
- Sensitive Receptors
- National Priority List Sites
- Landfill Sites

0 1/16 1/8 1/4 Miles

- Power transmission lines
- Oil & Gas pipelines
- 100-year flood zone
- 500-year flood zone
- Dept. of Defense Sites
- Water Quality Assurance Revolving Fund Areas

TARGET PROPERTY:	Carefree Drainage Master Plan	CUSTOMER:	CH2M Hill, Inc.
ADDRESS:	213	CONTACT:	Monique Chaisson
CITY/STATE/ZIP:	Carefree AZ 85377	INQUIRY #:	896955.5s
LAT/LONG:	33.8259 / 111.9173	DATE:	January 08, 2003 3:24 pm

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MAP FINDINGS SUMMARY

Database	Target Property	Search Distance (Miles)	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
FEDERAL ASTM STANDARD								
NPL		1.000	0	0	0	0	NR	0
Proposed NPL		1.000	0	0	0	0	NR	0
CERCLIS		0.500	0	0	0	NR	NR	0
CERC-NFRAP		0.250	0	0	NR	NR	NR	0
CORRACTS		1.000	0	0	0	0	NR	0
RCRIS-TSD		0.500	0	0	0	NR	NR	0
RCRIS Lg. Quan. Gen.		0.250	0	0	NR	NR	NR	0
RCRIS Sm. Quan. Gen.		0.250	0	0	NR	NR	NR	0
ERNS		TP	NR	NR	NR	NR	NR	0
STATE ASTM STANDARD								
SPL		1.000	0	0	0	0	NR	0
State Haz. Waste		1.000	0	0	0	0	NR	0
State Landfill		0.500	0	0	0	NR	NR	0
LUST		0.500	0	0	1	NR	NR	1
UST		0.250	0	1	NR	NR	NR	1
AZ WQARF		1.000	0	0	0	0	NR	0
INDIAN UST		0.250	0	0	NR	NR	NR	0
FEDERAL ASTM SUPPLEMENTAL								
CONSENT		1.000	0	0	0	0	NR	0
ROD		1.000	0	0	0	0	NR	0
Delisted NPL		1.000	0	0	0	0	NR	0
FINDS		TP	NR	NR	NR	NR	NR	0
HMIRS		TP	NR	NR	NR	NR	NR	0
MLTS		TP	NR	NR	NR	NR	NR	0
MINES		0.250	0	0	NR	NR	NR	0
NPL Liens		TP	NR	NR	NR	NR	NR	0
PADS		TP	NR	NR	NR	NR	NR	0
RAATS		TP	NR	NR	NR	NR	NR	0
TRIS		TP	NR	NR	NR	NR	NR	0
TSCA		TP	NR	NR	NR	NR	NR	0
SSTS		TP	NR	NR	NR	NR	NR	0
FTTS		TP	NR	NR	NR	NR	NR	0
STATE OR LOCAL ASTM SUPPLEMENTAL								
AST		TP	NR	NR	NR	NR	NR	0
AZ Spills		TP	NR	NR	NR	NR	NR	0
AZ DOD		0.500	0	0	0	NR	NR	0
WWFAC		0.500	0	0	0	NR	NR	0
Aquifer		TP	NR	NR	NR	NR	NR	0
Dry Wells		TP	NR	NR	NR	NR	NR	0
AZ AIRS		TP	NR	NR	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Target Property	Search Distance (Miles)	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
EDR PROPRIETARY HISTORICAL DATABASES								
Coal Gas		1.000	0	0	0	0	NR	0
AQUIFLOW - see EDR Physical Setting Source Addendum								

TP = Target Property

NR = Not Requested at this Search Distance

* Sites may be listed in more than one database

Map ID Direction Distance Distance (ft.) Elevation	Site	Database(s)	EDR ID Number EPA ID Number

Coal Gas Site Search: No site was found in a search of Real Property Scan's ENVIROHAZ database.

1
SSW
1/8-1/4
1180 ft.
Higher

CAVE CREEK MAIN CO #143040
7153 CAVE CREEK RD
CAVE CREEK, AZ 85331

UST **U003051765**
N/A

UST:

Facility ID:	0-003402	Tank ID:	1.00000
In Use:	False		
Date Removed:	09/01/1990		
Date Closed:	/ /		
In Use:	False		

2
South
1/4-1/2
1415 ft.
Higher

AVANKIS/CAREFREE SHELL
7201 E CAVE CREEK RD
CAREFREE, AZ 85377

LUST
UST **U003229049**
N/A

LUST:

Facility ID:	0-005635
Lust Number:	3835.01
Leak Priority:	CLOSED SOIL LVL MEETS TIER1
Notification:	12/21/1994
Date Closed:	03/31/2000

Facility ID:	0-005635
Lust Number:	3835.02
Leak Priority:	UNDEFINED OR UNKNOWN SOIL CONTAMINATION
Notification:	12/21/1994
Date Closed:	Not reported

UST:

Facility ID:	0-005635	Tank ID:	1.00000
In Use:	True		
Date Removed:	/ /		
Date Closed:	/ /		
In Use:	True		
Facility ID:	0-005635	Tank ID:	2.00000
In Use:	True		
Date Removed:	/ /		
Date Closed:	/ /		
In Use:	True		
Facility ID:	0-005635	Tank ID:	3.00000
In Use:	False		
Date Removed:	12/08/1994		
Date Closed:	/ /		
In Use:	False		
Facility ID:	0-005635	Tank ID:	4.00000
In Use:	True		
Date Removed:	/ /		
Date Closed:	/ /		
In Use:	True		

City	EDR ID	Site Name	Site Address	Zip	Database(s)
CAREFREE	1000202304	CAREFREE CLEANERS	36889 N TOM DARLINGTON DR	85377	RCRIS-SQG, FINDS
CAVE CREEK	1001486731	JANSON CLEANERS	29606 N CAVE CREEK RD STE 106	85331	RCRIS-SQG, FINDS
CAVE CREEK	U001628484	AT&T CAVE CREEK RS	6.5 MI E OF CAVE CREEK BARLETT D	85331	UST
CAVE CREEK	1003878171	CAVE CREEK LDFL	1 1/2 MI W OF CAREFREE HWY	85331	CERC-NFRAP
CAVE CREEK	U003547335	AT&T COMMUNICATIONS	6.2 MILES E OF CAVE CREEK	85331	UST
CAVE CREEK	S102787860	CAVE CREEK, TOWN OF WWTP	5600 E. RANCHO MANANA BLV	85331	Aquifer, WWFAC
MARICOPA COUNTY	S103895113	DEER VALLEY	19TH AVE. AND SOUTH OF GREENWAY		SWF/LF
MARICOPA COUNTY	S103895110	CITY OF PHOENIX 22ND AVE.	22ND AVE. AND LOWER BUCKEYE RD.		SWF/LF
MARICOPA COUNTY	S103895104	ARIZONA SAND & ROCK	AGUA FRIA RIVER AND GRAND AVE.		SWF/LF
MARICOPA COUNTY	S103895000	MARTORI FARMS	AGUILA, AZ		SWF/LF
MARICOPA COUNTY	S103278189	QUEEN CREEK	26402 B.SOUTH HAWES RD.1/2 MILE S.OF CHANDLE HIGHT		SWF/LF, WWFAC
MARICOPA COUNTY	S103895106	BEARDSLEY	BETWEEN CENTRAL AVE. AND 7TH ST SOUTH BEARDSLEY		SWF/LF
MARICOPA COUNTY	S103277500	DEL RIO	BETWEEN 7TH AND 16TH ST. NORTH OF ELWC RD.		SWF/LF, WWFAC
MARICOPA COUNTY	S103894989	ARIZONA MEDICAL WASTE	2 BLOCKS NORTH OF CAMELBACK RD. ON 51S AVE. 2 BLO		SWF/LF
MARICOPA COUNTY	S103086637	RESOURCE PROCESSING INC.	CENTRAL PORTION OF GILA BEND BASIN		SWF/LF
MARICOPA COUNTY	S103895118	LAYLOR MATERIALS	NORTHEAST CORNER OF 16TH ST. BEARDSLE		SWF/LF
MARICOPA COUNTY	S103895127	UFI	SOUTHEAST CORNER OF 123RD. AVE. AND BE RD.		SWF/LF
MARICOPA COUNTY	S103895128	VAL VISTA	SOUTHEAST CORNER OF RAY RD. AND VAL VISTA DR		SWF/LF
MARICOPA COUNTY	S103895130	WILLIAMS AIR FORCE BASE	SOUTHWEST CORNER OF WILLIAMS AIR FORC BASE		SWF/LF
MARICOPA COUNTY	S103894997	DEER VALLEY	SW CORNER OF 12TH ST. AND ALAMEDA		SWF/LF
MARICOPA COUNTY	S103895108	CITY OF MESA	NORTHEAST CORNER OF CENTER ST. AND LE RD.		SWF/LF
MARICOPA COUNTY	S103895120	OLD TOWN DUMP	DYSART RD. TO RID CANAL NORTH OF THOMA MILE		SWF/LF
MARICOPA COUNTY	S103895115	GENERAL MOTORS PROVING GROUNDS	ELLIOT RD. EAST TO SOSSMAN RD. SOUTH TC WARNER GO		SWF/LF
MARICOPA COUNTY	S103894995	CITY OF CHANDLER	GILA AND SALT RIVER BASE AND MERIDIAN		SWF/LF
MARICOPA COUNTY	S103086668	CHANDLER INT. #1 INTERIM	SOUTHEAST INTERSECTION OF FRYE AND DOBSON RD.		SWF/LF
MARICOPA COUNTY	S103809877	WQ-GILA RIVER DDT	LOWER GILA RIVER--SW AZ		SHWS
MARICOPA COUNTY	S103278512	TERRA QUEST	1.5 MILE SOUTH OF BASELINE EAST SIDE PRIEST AVE. A		SWF/LF, WWFAC
MARICOPA COUNTY	S103086670	CHANDLER INT. #3 INTERIM	MILE NORTH OF GERMAN RD. MILE EAST OF GILBERT RD.		SWF/LF
MARICOPA COUNTY	S103895116	GOODYEAR - SUMP #1	1 MILE NORTH OF MC DOWELL RD.		SWF/LF
MARICOPA COUNTY	S103895119	MORRISTOWN	1 MILE SOUTH OF US 60 OFF MORRISTOWN OVERPASS		SWF/LF

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
MARICOPA COUNTY	S103895123	SALT RIVER/PIMA TRIBE/TRI-CITY	1 MILE NORTH OF MC DOWELL ON THE BEELI HIGHWAY A		SWF/LF
MARICOPA COUNTY	S103895109	CITY OF PHOENIX 19TH AVE.	1 MILE SOUTH OF I-17ON EAST SIDE OF 19TH AVE.		SWF/LF
MARICOPA COUNTY	S103278201	RAINBOW VALLEY	5.5 MILES FROM AZ 85 WEST TO AIRPORT RD. SOUTH OF		SWF/LF, WWFAC
MARICOPA COUNTY	S103301969	GILA BEND	3.4 MILES NORTH OF AZ 85 ON WEST SIDE OF US 88		SHWS, SWF/LF
MARICOPA COUNTY	S100293355	NEW RIVER	4.3 MILES W OF I-17 ON THE E SIDE O		SWF/LF
MARICOPA COUNTY	S103895200	TOWN OF WICKENBURG	4.6 MILES WEST OF INTERSECTION OF US 60 AND AZ 89		SWF/LF
MARICOPA COUNTY	S103086710	SATORISE (EARTHWORKS)	1.5 MILES EAST OF I-17 ON END OF GREENWAY RD.		SWF/LF
MARICOPA COUNTY	S103895202	UNION ROCK CENTRAL AVE.	.25 MILES SOUTH OF I-17 ON CENTRAL AVE. WEST .25MI		SWF/LF
MARICOPA COUNTY	S103895005	REMAT/METCO RECYCLING FACILITY	3 1/2 MILES SOUTH OF I-10 AT 830 N. MILLER RD.CENT		SWF/LF
MARICOPA COUNTY	S103894988	ALLIED WASTE SOUTHWEST REGIONAL	6 MILES SOUTH OF BUCKEYE		SWF/LF
MARICOPA COUNTY	S100293348	CAVE CREEK	8.3 MILES EAST OF I-17 ON THE SOUTH		SWF/LF
MARICOPA COUNTY	S100293351	GILA BEND	3.4 MILES N OF AZ. 85 ON WEST SIDE		SWF/LF
MARICOPA COUNTY	S100293356	NORTHWEST REGIONAL	3.5 MILES WEST OF U.S. 89 ON DEER V		SWF/LF
MARICOPA COUNTY	S100293357	QUEEN CREEK	.5 MILES S OF CHANDLER HEIGHTS ROAD		SWF/LF
MARICOPA COUNTY	S100293360	WEINBERGER	.5 MILES SOUTH OF LOWER BUCKEYE ROA		SWF/LF
MARICOPA COUNTY	S103894987	APS/PALO VERDE RUBBISH	6 MILES SOUTH OF I-10 ON WINTERSBERG RD.WEST OF PH		SWF/LF
MARICOPA COUNTY	S103895103	AGUILA	3.1 MILES WEST OF AQUILA ON THE SOUTH SIDE OF US		SWF/LF
MARICOPA COUNTY	S103277326	BUCKEYE	AT MILLER RD. AND GILA RIVER		SWF/LF, WWFAC
MARICOPA COUNTY	S103894996	CITY OF GLENDALE	NORTHSIDE OF GLENDALE AVE.EAST OF THE AGUA FRIA RI		SWF/LF
MARICOPA COUNTY	S100240624	ALLIED	SOUTH OF INDIAN SCHOOL RD, WEST SID		SWF/LF
MARICOPA COUNTY	S103894998	K & B TIRE CO.	SOUTH OF MC DOWELL RD. BETWEEN 27TH A 19TH. AVE.		SWF/LF
MARICOPA COUNTY	S103895002	NORTHWEST REGIONAL	SOUTH OF 195TH AVE AND DEER VALLEY		SWF/LF
MARICOPA COUNTY	S103895114	ESTES	EAST SIDE OF 40TH ST. SOUTH OF THE SALT RIVER		SWF/LF
MARICOPA COUNTY	S103895105	AVONDALE	NORTH SIDE OF INTERSECTION OF US 80 ANC AGUA FRIA		SWF/LF
MARICOPA COUNTY	S103895112	CITY OF TEMPE	SOUTH SIDE OF SALT RIVER ON HAYDEN DR.		SWF/LF
MARICOPA COUNTY	S100293345	40TH STREET LANDFILL	NO. SIDE OF MAGNOLIA, .25 MLS. EAST		SWF/LF
MARICOPA COUNTY	S103086789	CHANDLER INT. #2 INTERIM	SOUTH SIDE OF QUEEN CREEK RD. 1 MILE EA OF VAL VI		SWF/LF
MARICOPA COUNTY	S103895111	CITY OF PHOENIX 91ST AVE.	WEST SIDE OF 91ST. AVE.		SWF/LF
MARICOPA COUNTY	S100293344	27TH AVENUE	THE SOUTHWEST CORNER OF 27TH AVE AN		SWF/LF
MARICOPA COUNTY	S100293350	DEER VALLEY LANDFILL	THE SOUTHWEST CORNER OF 16TH STREET		SWF/LF
MARICOPA COUNTY	S100293354	LONE CACTUS LANDFILL	ON THE N WEST CORNER OF 7TH ST /		SWF/LF
MARICOPA COUNTY	S103895121	PERRYVILLE	YUMA RD. EAST OF LUKE AIR FORCE AUXILAF FIELD #		SWF/LF

C. .IAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
SCOTTSDALE	S103277359	CAMP CREEK - TONTO NATIONAL FOREST	40202 NORTH CAVE CREEK RO	85262	WWFAC

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Elapsed ASTM days: Provides confirmation that this EDR report meets or exceeds the 90-day updating requirement of the ASTM standard.

FEDERAL ASTM STANDARD RECORDS

NPL: National Priority List
Source: EPA
Telephone: N/A
National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 10/24/02
Date Made Active at EDR: 12/09/02
Database Release Frequency: Semi-Annually
Date of Data Arrival at EDR: 11/04/02
Elapsed ASTM days: 35
Date of Last EDR Contact: 11/04/02

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 3
Telephone 215-814-5418

EPA Region 4
Telephone 404-562-8033

EPA Region 6
Telephone: 214-655-6659

EPA Region 8
Telephone: 303-312-6774

Proposed NPL: Proposed National Priority List Sites
Source: EPA
Telephone: N/A

Date of Government Version: 10/24/02
Date Made Active at EDR: 12/09/02
Database Release Frequency: Semi-Annually
Date of Data Arrival at EDR: 11/04/02
Elapsed ASTM days: 35
Date of Last EDR Contact: 11/04/02

CERCLIS: Comprehensive Environmental Response, Compensation, and Liability Information System
Source: EPA
Telephone: 703-413-0223
CERCLIS contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). CERCLIS contains sites which are either proposed to or on the National Priorities List (NPL) and sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 08/15/02
Date Made Active at EDR: 10/28/02
Database Release Frequency: Quarterly
Date of Data Arrival at EDR: 09/23/02
Elapsed ASTM days: 35
Date of Last EDR Contact: 12/26/02

CERCLIS-NFRAP: CERCLIS No Further Remedial Action Planned
Source: EPA
Telephone: 703-413-0223
As of February 1995, CERCLIS sites designated "No Further Remedial Action Planned" (NFRAP) have been removed from CERCLIS. NFRAP sites may be sites where, following an initial investigation, no contamination was found, contamination was removed quickly without the need for the site to be placed on the NPL, or the contamination was not serious enough to require Federal Superfund action or NPL consideration. EPA has removed approximately 25,000 NFRAP sites to lift the unintended barriers to the redevelopment of these properties and has archived them as historical records so EPA does not needlessly repeat the investigations in the future. This policy change is part of the EPA's Brownfields Redevelopment Program to help cities, states, private investors and affected citizens to promote economic redevelopment of unproductive urban sites.

Date of Government Version: 09/15/02
Date Made Active at EDR: 10/28/02
Database Release Frequency: Quarterly
Date of Data Arrival at EDR: 10/03/02
Elapsed ASTM days: 25
Date of Last EDR Contact: 12/26/02

CORRACTS: Corrective Action Report
Source: EPA
Telephone: 800-424-9346
CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 09/29/02
Date Made Active at EDR: 12/26/02
Database Release Frequency: Semi-Annually
Date of Data Arrival at EDR: 10/15/02
Elapsed ASTM days: 72
Date of Last EDR Contact: 12/09/02

RCRIS: Resource Conservation and Recovery Information System
Source: EPA/NTIS
Telephone: 800-424-9346
Resource Conservation and Recovery Information System. RCRIS includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA).

Date of Government Version: 09/09/02
Date Made Active at EDR: 10/28/02
Database Release Frequency: Varies
Date of Data Arrival at EDR: 09/24/02
Elapsed ASTM days: 34
Date of Last EDR Contact: 12/26/02

ERNS: Emergency Response Notification System
Source: EPA/NTIS
Telephone: 202-260-2342
Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 12/31/01
Date Made Active at EDR: 07/15/02
Database Release Frequency: Varies
Date of Data Arrival at EDR: 07/02/02
Elapsed ASTM days: 13
Date of Last EDR Contact: 10/28/02

FEDERAL ASTM SUPPLEMENTAL RECORDS

BRS: Biennial Reporting System
Source: EPA/NTIS
Telephone: 800-424-9346
The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/99
Database Release Frequency: Biennially
Date of Last EDR Contact: 12/17/02
Date of Next Scheduled EDR Contact: 03/17/03

CONSENT: Superfund (CERCLA) Consent Decrees
Source: EPA Regional Offices
Telephone: Varies
Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: N/A
Database Release Frequency: Varies
Date of Last EDR Contact: N/A
Date of Next Scheduled EDR Contact: N/A

ROD: Records Of Decision
Source: EPA
Telephone: 703-416-0223
Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 12/21/01
Database Release Frequency: Annually
Date of Last EDR Contact: 10/07/02
Date of Next Scheduled EDR Contact: 01/06/03

DELISTED NPL: National Priority List Deletions
Source: EPA
Telephone: N/A
The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 10/18/02
Database Release Frequency: Quarterly
Date of Last EDR Contact: 11/04/02
Date of Next Scheduled EDR Contact: 02/03/03

FINDS: Facility Index System/Facility Identification Initiative Program Summary Report
Source: EPA
Telephone: N/A
Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 10/10/02
Database Release Frequency: Quarterly
Date of Last EDR Contact: 10/07/02
Date of Next Scheduled EDR Contact: 01/06/03

HMIRS: Hazardous Materials Information Reporting System
Source: U.S. Department of Transportation
Telephone: 202-366-4555
Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 07/31/02
Database Release Frequency: Annually
Date of Last EDR Contact: 10/21/02
Date of Next Scheduled EDR Contact: 01/20/03

MLTS: Material Licensing Tracking System
Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 10/21/02
Database Release Frequency: Quarterly
Date of Last EDR Contact: 10/08/02
Date of Next Scheduled EDR Contact: 01/06/03

MINES: Mines Master Index File
Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959

Date of Government Version: 09/10/02
Database Release Frequency: Semi-Annually
Date of Last EDR Contact: 01/03/03
Date of Next Scheduled EDR Contact: 03/31/03

NPL LIENS: Federal Superfund Liens
Source: EPA
Telephone: 205-564-4267
Federal Superfund Liens. Under the authority granted the USEPA by the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner receives notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/91
Database Release Frequency: No Update Planned
Date of Last EDR Contact: 11/25/02
Date of Next Scheduled EDR Contact: 02/24/03

PADS: PCB Activity Database System
Source: EPA
Telephone: 202-564-3887
PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 09/20/02
Database Release Frequency: Annually
Date of Last EDR Contact: 11/13/02
Date of Next Scheduled EDR Contact: 02/10/03

RAATS: RCRA Administrative Action Tracking System
Source: EPA
Telephone: 202-564-4104
RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/95
Database Release Frequency: No Update Planned
Date of Last EDR Contact: 12/10/02
Date of Next Scheduled EDR Contact: 03/10/03

TRIS: Toxic Chemical Release Inventory System
Source: EPA
Telephone: 202-260-1531
Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/00
Database Release Frequency: Annually
Date of Last EDR Contact: 12/26/02
Date of Next Scheduled EDR Contact: 03/24/03

TSCA: Toxic Substances Control Act
Source: EPA
Telephone: 202-260-5521
Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/98
Database Release Frequency: Every 4 Years
Date of Last EDR Contact: 12/10/02
Date of Next Scheduled EDR Contact: 03/10/03

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
Source: EPA
Telephone: 202-564-2501

Date of Government Version: 10/24/02
Database Release Frequency: Quarterly
Date of Last EDR Contact: 12/26/02
Date of Next Scheduled EDR Contact: 03/24/03

SSTS: Section 7 Tracking Systems
Source: EPA
Telephone: 202-564-5008
Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 12/31/00
Database Release Frequency: Annually
Date of Last EDR Contact: 10/22/02
Date of Next Scheduled EDR Contact: 01/20/03

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-564-2501
FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 10/24/02
Database Release Frequency: Quarterly
Date of Last EDR Contact: 12/26/02
Date of Next Scheduled EDR Contact: 03/24/03

STATE OF ARIZONA ASTM STANDARD RECORDS

SPL: Superfund Program List
Source: Dept. of Environmental Quality
Telephone: 602-771-4360
The list is representative of the sites and potential sites within the jurisdiction of the Superfund Program Section. It is comprised of the following elements: 1) Water Quality Assurance Revolving Fund Registry Sites; 2) Potential WQARF Registry sites; 3) NPL sites; and 4) Department of Defense sites requiring SPS oversight.

Date of Government Version: 07/15/02
Date Made Active at EDR: 10/04/02
Database Release Frequency: Semi-Annually
Date of Data Arrival at EDR: 09/03/02
Elapsed ASTM days: 31
Date of Last EDR Contact: 12/02/02

SHWS: ZipAcids List
Source: Department of Environmental Quality
Telephone: 602-771-4360
The ACIDS list consists of more than 750 locations subject to investigation under the State Water Quality Assurance Revolving Fund (WQARF) and Federal CERCLA programs. The list is no longer updated by the state.

Date of Government Version: 01/03/00
Date Made Active at EDR: 05/16/00
Database Release Frequency: No Update Planned
Date of Data Arrival at EDR: 04/11/00
Elapsed ASTM days: 35
Date of Last EDR Contact: 10/21/02

SWF/LF: Directory of Solid Waste Facilities
Source: Department of Environmental Quality
Telephone: 602-771-4132
Solid Waste Facilities/Landfill Sites. SWF/LF type records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. Depending on the state, these may be active or inactive facilities or open dumps that failed to meet RCRA Subtitle D Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 11/01/00
Date Made Active at EDR: 02/01/01
Database Release Frequency: Annually
Date of Data Arrival at EDR: 01/02/01
Elapsed ASTM days: 30
Date of Last EDR Contact: 11/15/02

LUST: Leaking Underground Storage Tank Listing
Source: Department of Environmental Quality
Telephone: 602-771-4345
Leaking Underground Storage Tank Incident Reports. LUST records contain an inventory of reported leaking underground storage tank incidents. Not all states maintain these records, and the information stored varies by state.

Date of Government Version: 10/30/02
Date Made Active at EDR: 11/25/02
Database Release Frequency: Semi-Annually
Date of Data Arrival at EDR: 11/12/02
Elapsed ASTM days: 13
Date of Last EDR Contact: 11/12/02

UST: Underground Storage Tank Listing
Source: Department of Environmental Quality
Telephone: 602-771-4345
Registered Underground Storage Tanks. UST's are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA) and must be registered with the state department responsible for administering the UST program. Available information varies by state program.

Date of Government Version: 02/06/02
Date Made Active at EDR: 04/01/02
Database Release Frequency: Annually

Date of Data Arrival at EDR: 03/11/02
Elapsed ASTM days: 21
Date of Last EDR Contact: 11/12/02

WQARF: Water Quality Assurance Revolving Fund Sites
Source: Department of Environmental Quality
Telephone: 602-771-4360
Sites which may have an actual or potential impact upon the waters of the state, cause by hazardous substances. The WQARF program provides matching funds to political subdivisions and other state agencies for clean-up activities.

Date of Government Version: 03/08/02
Date Made Active at EDR: 04/30/02
Database Release Frequency: Annually

Date of Data Arrival at EDR: 03/25/02
Elapsed ASTM days: 36
Date of Last EDR Contact: 12/27/02

INDIAN UST: Underground Storage Tanks on Indian Land
Source: EPA Region 9
Telephone: 415-972-3368

Date of Government Version: N/A
Date Made Active at EDR: N/A
Database Release Frequency: Varies

Date of Data Arrival at EDR: N/A
Elapsed ASTM days: 0
Date of Last EDR Contact: N/A

STATE OF ARIZONA ASTM SUPPLEMENTAL RECORDS

AST: List of Aboveground Storage Tanks
Source: Dept. of Building & Fire Safety
Telephone: 602-364-1003
Aboveground storage tanks that the Dept. of Building & Fire Safety have permitted.

Date of Government Version: 12/31/00
Database Release Frequency: Annually

Date of Last EDR Contact: 10/25/02
Date of Next Scheduled EDR Contact: 01/13/03

SPILLS: Hazardous Material Logbook
Source: Department of Environmental Quality
Telephone: 602-771-4153
ADEQ Emergency Response Unit. The ADEQ Emergency Response Unit documents chemical spills and incidents which are referred to the Unit. The logbook information for 1984-1986 consists of handwritten entries of the date, incident number and name of facility if known. Current logbooks are computerized and can be sorted by date, incident number, name, city (zip codes are not included), county, chemical and quantity.

Date of Government Version: 06/30/00
Database Release Frequency: Semi-Annually

Date of Last EDR Contact: 01/03/03
Date of Next Scheduled EDR Contact: 03/31/03

DOD: Department of Defense Sites
Source: Department of Environmental Quality
Telephone: 602-771-4360
These sites are federal facilities that are either being assessed for potential contamination, or have active remediation taking place on them.

Date of Government Version: 03/08/02
Database Release Frequency: Annually

Date of Last EDR Contact: 12/27/02
Date of Next Scheduled EDR Contact: 03/24/03

WWFAC: Waste Water Treatment Facilities
Source: Department of Environmental Quality
Telephone: 602-771-4623
Statewide list of waste water treatment facilities.

Date of Government Version: 12/12/00
Database Release Frequency: Varies

Date of Last EDR Contact: 11/25/02
Date of Next Scheduled EDR Contact: 02/24/03

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

AQUIFER: Waste Water Treatment Facilities
Source: Department of Environmental Quality
Telephone: 602-771-4623
Waste Water Treatment Facilities with APP (Aquifer Protection Permits.)

Date of Government Version: 11/01/01
Database Release Frequency: Semi-Annually
Date of Last EDR Contact: 10/28/02
Date of Next Scheduled EDR Contact: 01/27/03

DRY WELLS: Drywell Registration
Source: Department of Environmental Quality
Telephone: 602-771-4686
A drywell is a bored, drilled, or driven shaft or hole whose depth is greater than its width and is designed and constructed specifically for the disposal of storm water.

Date of Government Version: 09/01/02
Database Release Frequency: Semi-Annually
Date of Last EDR Contact: 12/26/02
Date of Next Scheduled EDR Contact: 03/24/03

AZ AIRS: Arizona Airs Database
Source: Department of Environmental Quality
Telephone: 602-771-2344
Arizona major (has the potential to emit over 100 tons of criteria pollutant) and minor (below 100 tons) sources.

Date of Government Version: 05/31/02
Database Release Frequency: Semi-Annually
Date of Last EDR Contact: 11/04/02
Date of Next Scheduled EDR Contact: 02/03/03

EDR PROPRIETARY HISTORICAL DATABASES

Former Manufactured Gas (Coal Gas) Sites: The existence and location of Coal Gas sites is provided exclusively to EDR by Real Property Scan, Inc. ©Copyright 1993 Real Property Scan, Inc. For a technical description of the types of hazards which may be found at such sites, contact your EDR customer service representative.

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The information contained in this report has predominantly been obtained from publicly available sources produced by entities other than Real Property Scan. While reasonable steps have been taken to insure the accuracy of this report, Real Property Scan does not guarantee the accuracy of this report. Any liability on the part of Real Property Scan is strictly limited to a refund of the amount paid. No claim is made for the actual existence of toxins at any site. This report does not constitute a legal opinion.

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

Oil/Gas Pipelines/Electrical Transmission Lines: This data was obtained by EDR from the USGS in 1994. It is referred to by USGS as GeoData Digital Line Graphs from 1:100,000-Scale Maps. It was extracted from the transportation category including some oil, but primarily gas pipelines and electrical transmission lines.

Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 1999 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002 from the U.S. Fish and Wildlife Service.

STREET AND ADDRESS INFORMATION

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GEOCHECK®- PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

CAREFREE DRAINAGE MASTER PLAN
213
CAREFREE, AZ 85377

TARGET PROPERTY COORDINATES

Latitude (North):	33.825901 - 33˚ 49' 33.2"
Longitude (West):	111.917297 - 111˚ 55' 2.3"
Universal Tranverse Mercator:	Zone 12
UTM X (Meters):	415113.6
UTM Y (Meters):	3743036.8

EDR's GeoCheck Physical Setting Source Addendum has been developed to assist the environmental professional with the collection of physical setting source information in accordance with ASTM 1527-00, Section 7.2.3. Section 7.2.3 requires that a current USGS 7.5 Minute Topographic Map (or equivalent, such as the USGS Digital Elevation Model) be reviewed. It also requires that one or more additional physical setting sources be sought when (1) conditions have been identified in which hazardous substances or petroleum products are likely to migrate to or from the property, and (2) more information than is provided in the current USGS 7.5 Minute Topographic Map (or equivalent) is generally obtained, pursuant to local good commercial or customary practice, to assess the impact of migration of recognized environmental conditions in connection with the property. Such additional physical setting sources generally include information about the topographic, hydrologic, hydrogeologic, and geologic characteristics of a site, and wells in the area.

Assessment of the impact of contaminant migration generally has two principle investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata. EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

TOPOGRAPHIC INFORMATION

Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

USGS TOPOGRAPHIC MAP ASSOCIATED WITH THIS SITE

Target Property: 2433111-G8 CAVE CREEK, AZ
Source: USGS 7.5 min quad index

GENERAL TOPOGRAPHIC GRADIENT AT TARGET PROPERTY

Target Property: General NNW

Source: General Topographic Gradient has been determined from the USGS 1 Degree Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

Target Property County	FEMA Flood Electronic Data
MARICOPA, AZ	YES - refer to the Overview Map and Detail Map

Flood Plain Panel at Target Property: 04013C0808G

Additional Panels in search area: 04013C0809G
04013C0820E

NATIONAL WETLAND INVENTORY

NWI Quad at Target Property	NWI Electronic Data Coverage
NOT AVAILABLE	Not Available

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Site-Specific Hydrogeological Data*:

Search Radius:	2.0 miles
Status:	Not found

AQUIFLOW®

Search Radius: 2.000 Miles.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

MAP ID	LOCATION FROM TP	GENERAL DIRECTION GROUNDWATER FLOW
Not Reported		

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

Era:	Cenozoic
System:	Quaternary
Series:	Quaternary
Code:	Q *(decoded above as Era, System & Series)*

GEOLOGIC AGE IDENTIFICATION

Category: Stratifed Sequence

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps. The following information is based on Soil Conservation Service STATSGO data.

* ©1996 Site-specific hydrogeological data gathered by CERCLIS Alerts, Inc., Bainbridge Island, WA. All rights reserved. All of the information and opinions presented are those of the cited EPA report(s), which were completed under a Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS) investigation.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Component Name: GRAN

Soil Surface Texture: very gravelly - sandy loam

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class: Well drained. Soils have intermediate water holding capacity. Depth to water table is more than 6 feet.

Hydric Status: Soil does not meet the requirements for a hydric soil.

Corrosion Potential - Uncoated Steel: HIGH

Depth to Bedrock Min: > 20 inches

Depth to Bedrock Max: > 40 inches

Soil Layer Information

	Boundary			Classification			
Layer	**Upper**	**Lower**	**Soil Texture Class**	**AASHTO Group**	**Unified Soil**	**Permeability Rate (in/hr)**	**Soil Reaction (pH)**
1	0 inches	1 inches	very gravelly - sandy loam	Granular materials (35 pct. or less passing No. 200), Stone Fragments, Gravel and Sand.	COURSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 6.00 Min: 2.00	Max: 8.40 Min: 7.40
2	1 inches	12 inches	very gravelly - sandy clay	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COURSE-GRAINED SOILS, Sands, Sands with fines, Clayey sand.	Max: 0.60 Min: 0.20	Max: 8.40 Min: 7.40
3	12 inches	36 inches	weathered bedrock	Not reported	Not reported	Max: 0.00 Min: 0.00	Max: 0.00 Min: 0.00
4	36 inches	40 inches	unweathered bedrock	Not reported	Not reported	Max: 0.00 Min: 0.00	Max: 0.00 Min: 0.00

OTHER SOIL TYPES IN AREA

Based on Soil Conservation Service STATSGO data, the following additional subordinant soil types may appear within the general area of target property.

Soil Surface Textures: unweathered bedrock
very gravelly - clay loam

Surficial Soil Types: unweathered bedrock
very gravelly - clay loam

Shallow Soil Types: No Other Soil Types

Deeper Soil Types: No Other Soil Types

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

ADDITIONAL ENVIRONMENTAL RECORD SOURCES

According to ASTM E 1527-00, Section 7.2.2, "one or more additional state or local sources of environmental records may be checked, in the discretion of the environmental professional, to enhance and supplement federal and state sources... Factors to consider in determining which local or additional state records, if any, should be checked include (1) whether they are reasonably ascertainable, (2) whether they are sufficiently useful, accurate, and complete in light of the objective of the records review (see 7.1.1), and (3) whether they are obtained, pursuant to local, good commercial or customary practice." One of the record sources listed in Section 7.2.2 is water well information. Water well information can be used to assist the environmental professional in assessing sources that may impact groundwater flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

WELL SEARCH DISTANCE INFORMATION

DATABASE	SEARCH DISTANCE (miles)
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 1 mile
State Database	1.000

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
A1	334943111545901	1/8 - 1/4 Mile North
D25	334930111543001	1/4 - 1/2 Mile East
E36	334954111552401	1/2 - 1 Mile NW
H37	334914111543301	1/2 - 1 Mile SE
G43	334945111553301	1/2 - 1 Mile WNW
H44	334918111542801	1/2 - 1 Mile ESE
G45	334946111553301	1/2 - 1 Mile WNW
J49	335004111545901	1/2 - 1 Mile North
L66	334945111554701	1/2 - 1 Mile WNW
Q71	334947111555201	1/2 - 1 Mile WNW

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
5	AZ0407153	1/4 - 1/2 Mile South

Note: PWS System location is not always the same as well location.

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
A2	AZWR602820	1/8 - 1/4 Mile NNW
A3	AZWR803530	1/8 - 1/4 Mile NNW
A4	AZWR604779	1/8 - 1/4 Mile NNE
B6	AZWR514904	1/4 - 1/2 Mile NE
B7	AZWR800671	1/4 - 1/2 Mile NE

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

STATE DATABASE WELL INFORMATION

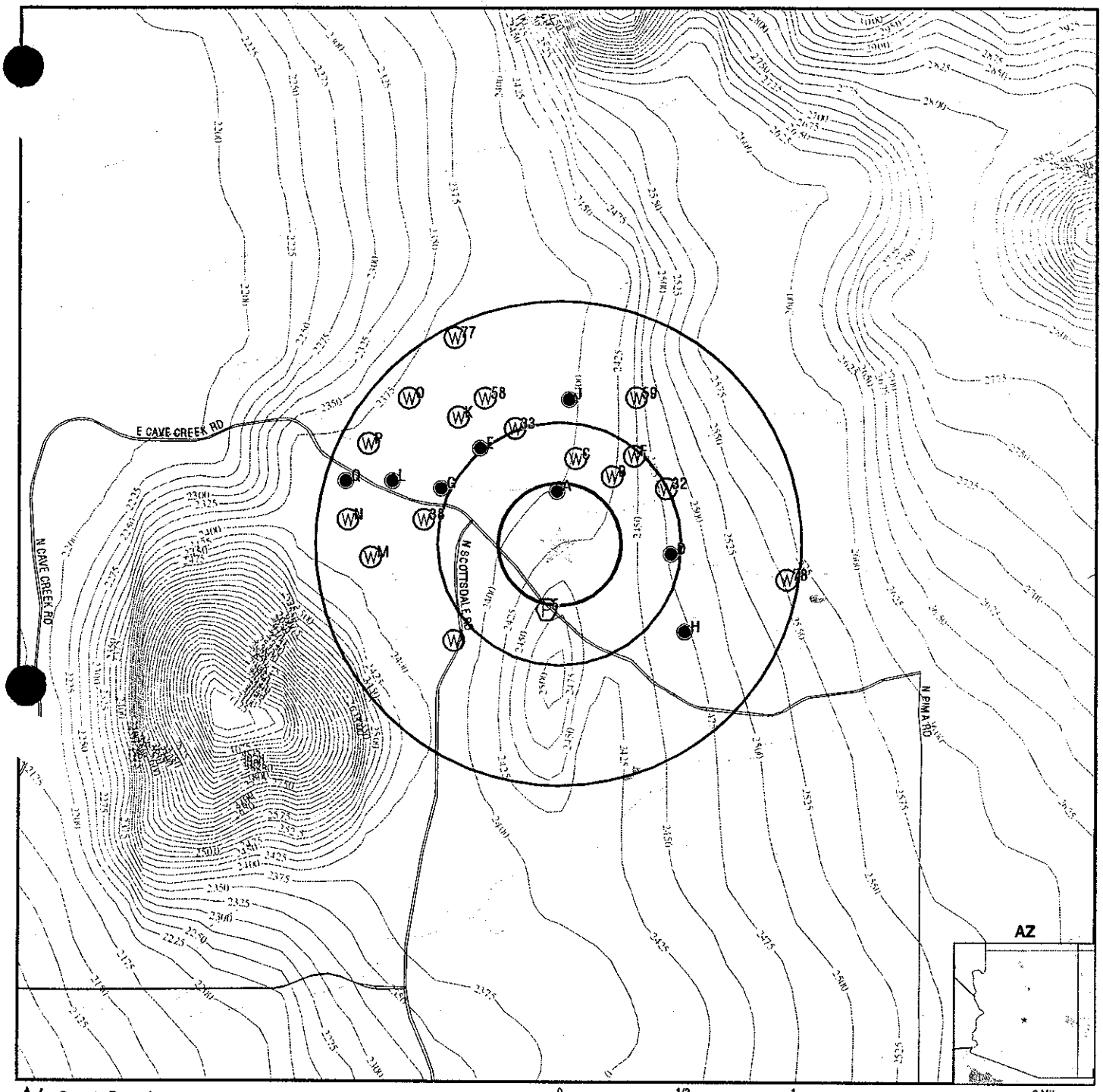
MAP ID	WELL ID	LOCATION FROM TP
C8	AZWR602835	1/4 - 1/2 Mile North
C9	AZWR632123	1/4 - 1/2 Mile North
B10	AZWR556858	1/4 - 1/2 Mile NE
B11	AZWR508721	1/4 - 1/2 Mile NNE
B12	AZWR628046	1/4 - 1/2 Mile NNE
D13	AZWR604780	1/4 - 1/2 Mile East
E14	AZWR527022	1/4 - 1/2 Mile NW
E15	AZWR537088	1/4 - 1/2 Mile NW
E16	AZWR085289	1/4 - 1/2 Mile NW
E17	AZWR517616	1/4 - 1/2 Mile NW
E18	AZWR800715	1/4 - 1/2 Mile NW
F19	AZWR512174	1/4 - 1/2 Mile NE
F20	AZWR572237	1/4 - 1/2 Mile NE
F21	AZWR803769	1/4 - 1/2 Mile NE
F22	AZWR803770	1/4 - 1/2 Mile NE
E23	AZWR640595	1/4 - 1/2 Mile NNW
E24	AZWR803838	1/4 - 1/2 Mile NNW
F26	AZWR602366	1/4 - 1/2 Mile NNE
F27	AZWR806754	1/4 - 1/2 Mile NNE
F28	AZWR648169	1/4 - 1/2 Mile NNE
G29	AZWR544071	1/4 - 1/2 Mile WNW
G30	AZWR807351	1/4 - 1/2 Mile WNW
G31	AZWR533284	1/4 - 1/2 Mile WNW
32	AZWR801084	1/4 - 1/2 Mile ENE
33	AZWR638233	1/2 - 1 Mile NNW
E34	AZWR085006	1/2 - 1 Mile NW
E35	AZWR513080	1/2 - 1 Mile NW
38	AZWR800833	1/2 - 1 Mile West
E39	AZWR640371	1/2 - 1 Mile NNW
E40	AZWR633667	1/2 - 1 Mile NNW
E41	AZWR525029	1/2 - 1 Mile NNW
E42	AZWR524910	1/2 - 1 Mile NNW
I46	AZWR534767	1/2 - 1 Mile SW
I47	AZWR540550	1/2 - 1 Mile SW
I48	AZWR557337	1/2 - 1 Mile SW
G50	AZWR639925	1/2 - 1 Mile WNW
J51	AZWR629982	1/2 - 1 Mile North
K52	AZWR639198	1/2 - 1 Mile NW
K53	AZWR540066	1/2 - 1 Mile NW
K54	AZWR523220	1/2 - 1 Mile NW
K55	AZWR536365	1/2 - 1 Mile NW
K56	AZWR804103	1/2 - 1 Mile NW
K57	AZWR636350	1/2 - 1 Mile NW
58	AZWR538118	1/2 - 1 Mile NNW
59	AZWR638748	1/2 - 1 Mile NNE
L60	AZWR803771	1/2 - 1 Mile WNW
H61	AZWR611876	1/2 - 1 Mile SE
H62	AZWR503642	1/2 - 1 Mile SE
K63	AZWR640368	1/2 - 1 Mile NW
K64	AZWR638263	1/2 - 1 Mile NW
M65	AZWR634975	1/2 - 1 Mile West
M67	AZWR633045	1/2 - 1 Mile West

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
N68	AZWR631418	1/2 - 1 Mile West
O69	AZWR502299	1/2 - 1 Mile NW
P70	AZWR638093	1/2 - 1 Mile WNW
P72	AZWR800889	1/2 - 1 Mile WNW
O73	AZWR648056	1/2 - 1 Mile NW
Q74	AZWR804020	1/2 - 1 Mile WNW
P75	AZWR518050	1/2 - 1 Mile WNW
N76	AZWR634407	1/2 - 1 Mile West
77	AZWR601779	1/2 - 1 Mile NNW
78	AZWR604781	1/2 - 1 Mile East
Q79	AZWR634964	1/2 - 1 Mile WNW

PHYSICAL SETTING SOURCE MAP - 896955.5s



0 1/2 1 2 Miles

- County Boundary
- Major Roads
- Contour Lines
- Water Wells
- Public Water Supply Wells
- Groundwater Flow Direction
- Indeterminate Groundwater Flow at Location
- Groundwater Flow Varies at Location
- Cluster of Multiple Icons
- Earthquake epicenter, Richter 5 or greater
- Closest Hydrogeological Data

TARGET PROPERTY:	Carefree Drainage Master Plan	CUSTOMER:	CH2M Hill, Inc.
ADDRESS:	213	CONTACT:	Monique Chaisson
CITY/STATE/ZIP:	Carefree AZ 85377	INQUIRY #:	896955.5s
LAT/LONG:	33.8259 / 111.9173	DATE:	January 08, 2003 3:25 pm

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GEOCHECK®- PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID Direction Distance Elevation	Database	EDR ID Number
A1 **North** **1/8 - 1/4 Mile** **Lower**	**FED USGS**	**334943111545901**

BASIC WELL DATA

Site Type:	Single well, other than collector or Ranney type		
Year Constructed:	1959	County:	Maricopa
Altitude:	2375.00 ft.	State:	Arizona
Well Depth:	485.00 ft.	Topographic Setting:	Not Reported
Depth to Water Table:	37.00 ft.	Prim. Use of Site:	Withdrawal of water
Date Measured:	02011959	Prim. Use of Water:	Public supply

A2 **NNW** **1/8 - 1/4 Mile** **Lower**	**AZ WELLS**	**AZWR602820**

Registryid:	602820	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SW
Acre40:	SE	Acre10:	SE
Utmx:	415087.6	Utmy:	3743397.4
Welltype:	NON-EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	10/17/1979 00:00:00
Driller:	0	Welldepth:	265
Waterlevel:	40	Casingtype:	PLASTIC OR PVC
Casingdeep:	265	Casingwide:	5
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	45	Testrate:	45
Drawdown:	0	Drilllog:	Not Reported
Lastname:	PARKE,R E	Firstname:	Not Reported
Company:	Not Reported		
Address:	831 E MISSOURI		
City:	PHOENIX	State:	AZ
Zipcode:	85014	Cancelled:	Not Reported
Driller:	0		
Company:	NO DRILLER SPECIFIED		
Address:	Not Reported AZ		

A3 **NNW** **1/8 - 1/4 Mile** **Lower**	**AZ WELLS**	**AZWR803530**

Registryid:	803530	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SW
Acre40:	SE	Acre10:	SE
Utmx:	415087.6	Utmy:	3743397.4
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	01/01/1960 00:00:00
Driller:	0	Welldepth:	104
Waterlevel:	35	Casingtype:	OTHER - BLACK STEEL - IRON - SEAMLESS
Casingdeep:	80	Casingwide:	5
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	8	Testrate:	0
Drawdown:	0	Drilllog:	Not Reported
Lastname:	DUBAS, WALTER,J	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 914		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported
	AZ

A4
NNE
1/8 - 1/4 Mile
Lower

AZ WELLS **AZWR604779**

Registryid:	604779	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SE
Acre40:	SW	Acre10:	SW
Utmx:	415287.7	Utmy:	3743396.5
Welltype:	NON-EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	MUNICIPAL
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	01/01/1959 00:00:00
Driller:	0	Welldepth:	485
Waterlevel:	82	Casingtype:	STEEL - PERFORATED OR SLOTTED CASING
Casingdeep:	485	Casingwide:	16
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	140	Testrate:	140
Drawdown:	0	Drilllog:	Not Reported

Lastname:	CAREFREE WATER CO,	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 702		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported
Registryid:	604779	Pump1984:	159.1
Pump1985:	145.11	Pump1986:	153.06
Pump1987:	86.5	Pump1988:	53.76
Pump1989:	122.75	Pump1990:	134.77
Pump1991:	137.78	Pump1992:	121.36
Pump1993:	124.99	Pump1994:	117.27
Pump1995:	89.87	Pump1996:	83.75
Pump1997:	69.26	Pump1998:	79.56
Pump1999:	45.09	Pumptotal:	1792.16
Driller:	0		
Company:	NO DRILLER SPECIFIED		
Address:	Not Reported		
	AZ		

5
South
1/4 - 1/2 Mile
Higher

FRDS PWS **AZ0407153**

PWS ID:	AZ0407153	PWS Status:	Active
Date Initiated:	7706	Date Deactivated:	Not Reported
PWS Name:	SCOTTSDALE CAREFREE RANCH 9191 EAST SAN SALVADOR DRIVE SCOTTSDALE, AZ 85258		
Addressee / Facility:	System Owner/Responsible Party CITY OF SCOTTSDALE 9388 EAST SAN SALVADOR DR SCOTTSDALE, AZ 85258		
Facility Latitude:	Not Reported	Facility Longitude:	Not Reported
City Served:	CAREFREE		
Treatment Class:	Untreated	Population:	00000960

PWS currently has or had major violation(s) or enforcement: Yes

VIOLATIONS INFORMATION:

Violation ID:	9358863	Source ID:	Not Reported	PWS Phone:	Not Reported
Vio. beginning Date:	*03/01/93*	*Vio. end Date:*	*03/31/93*	*Vio. Period:*	*001 Months*
Num required Samples:	Not Reported	Number of Samples Taken:		Not Reported	
Analysis Result:	Not Reported	Maximum Contaminant Level:		Not Reported	
Analysis Method:	Not Reported				
Violation Type:	Monitoring, Routine Minor (TCR)				
Contaminant:	COLIFORM (TCR)				
Vio. Awareness Date:	050294				

Map ID Direction Distance Elevation	Database	EDR ID Number
B6 **NE** **1/4 - 1/2 Mile** **Higher**	**AZ WELLS**	**AZWR514904**

Registryid:	514904	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SE
Acre40:	SW	Acre10:	SE
Utmx:	415487.8	Utmy:	3743395.6
Welltype:	DOMESTIC STOCK EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	07/25/1986 00:00:00
Driller:	127	Welldepth:	300
Waterlevel:	70	Casingtype:	PLASTIC OR PVC
Casingdeep:	300	Casingwide:	8
Pumptype:	SUBMERSIBLE	Pumppower:	ELECTRIC MOTOR 1 - 5 HP
Pumprate:	27	Testrate:	30
Drawdown:	0	Drilllog:	X
Lastname:	THREADGILL, SELMAN,	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 2303		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported

Driller:	127
Company:	SPUR CROSS DEVELOPMENT, INC.
Address:	38219 N. 3RD AVENUE DESERT HILLS, AZ 85027

B7 **NE** **1/4 - 1/2 Mile** **Higher**	**AZ WELLS**	**AZWR800671**

Registryid:	800671	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SE
Acre40:	SW	Acre10:	SE
Utmx:	415487.8	Utmy:	3743395.6
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	STOCK	Wateruse3:	Not Reported

Approved:	Not Reported	Installed:	Not Reported
Driller:	0	Welldepth:	0
Waterlevel:	0	Casingtype:	Not Reported
Casingdeep:	0	Casingwide:	0
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drillog:	Not Reported
Lastname:	COMICK, MICHAEL,E	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 2793		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported AZ

C8
North
1/4 - 1/2 Mile
Lower

AZ WELLS **AZWR602835**

Registryid:	602835	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SE
Acre40:	SW	Acre10:	NW
Utmx:	415289.4	Utmy:	3743596.8
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	IRRIGATION
Wateruse2:	DOMESTIC	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	01/30/1975 00:00:00
Driller:	0	Welldepth:	250
Waterlevel:	100	Casingtype:	STEEL - PERFORATED OR SLOTTED CASING
Casingdeep:	250	Casingwide:	8
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	35	Testrate:	35
Drawdown:	0	Drillog:	Not Reported
Lastname:	BANE,J	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 1488		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported AZ

Map ID Direction Distance Elevation	Database	EDR ID Number
C9 **North** **1/4 - 1/2 Mile** **Lower**	**AZ WELLS**	**AZWR632123**

Registryid:	632123	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SE
Acre40:	SW	Acre10:	NW
Utmx:	415289.4	Utmy:	3743596.8
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	08/15/1978 00:00:00
Driller:	0	Welldepth:	250
Waterlevel:	96	Casingtype:	STEEL - PERFORATED OR SLOTTED CASING
Casingdeep:	250	Casingwide:	6
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	20	Testrate:	20
Drawdown:	0	Drilllog:	Not Reported
Lastname:	STEIGERWALD,J	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 1026		
City:	CAREFREE	State:	AZ
Zipcode:	85977	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported AZ

B10 **NE** **1/4 - 1/2 Mile** **Higher**	**AZ WELLS**	**AZWR556858**

Registryid:	556858	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SE
Acre40:	SE	Acre10:	SW
Utmx:	415687.8	Utmy:	3743394.7
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported

Approved:	Not Reported	Installed:	03/03/1997 00:00:00
Driller:	127	Welldepth:	300
Waterlevel:	180	Casingtype:	PLASTIC OR PVC
Casingdeep:	300	Casingwide:	8
Pumptype:	SUBMERSIBLE	Pumppower:	ELECTRIC MOTOR 1 - 5 HP
Pumprate:	12	Testrate:	0
Drawdown:	0	Drilllog:	X
Lastname:	PAYNE, THOMAS,W	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 9878		
City:	ASPEN	State:	CO
Zipcode:	81611	Cancelled:	Not Reported

Driller:	127
Company:	SPUR CROSS DEVELOPMENT, INC.
Address:	38219 N. 3RD AVENUE DESERT HILLS, AZ 85027

B11
NNE
1/4 - 1/2 Mile
Lower

AZ WELLS **AZWR508721**

Registryid:	508721	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SE
Acre40:	SW	Acre10:	NE
Utmx:	415489.4	Utmy:	3743595.9
Welltype:	DOMESTIC STOCK EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	02/21/1985 00:00:00
Driller:	127	Welldepth:	290
Waterlevel:	200	Casingtype:	PLASTIC OR PVC
Casingdeep:	280	Casingwide:	8
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drilllog:	X
Lastname:	BOHANNAN JR,B	Firstname:	Not Reported
Company:	Not Reported		
Address:	7000 E BERNEIL DR		
City:	SCOTTSDALE	State:	AZ
Zipcode:	85253	Cancelled:	Not Reported

Driller:	127
Company:	SPUR CROSS DEVELOPMENT, INC.
Address:	38219 N. 3RD AVENUE DESERT HILLS, AZ 85027

Map ID Direction Distance Elevation	Database	EDR ID Number
B12 **NNE** **1/4 - 1/2 Mile** **Lower**	**AZ WELLS**	**AZWR628046**

Registryid:	628046	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SE
Acre40:	SW	Acre10:	NE
Utmx:	415489.4	Utmy:	3743595.9
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	01/01/1973 00:00:00
Driller:	0	Welldepth:	0
Waterlevel:	0	Casingtype:	Not Reported
Casingdeep:	0	Casingwide:	0
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drilllog:	Not Reported
Lastname:	DESZENDEFFY,R	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 556		
City:	LINCOLN PARK	State:	NJ
Zipcode:	07035	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported AZ

D13 **East** **1/4 - 1/2 Mile** **Higher**	**AZ WELLS**	**AZWR604780**

Registryid:	604780	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	35	Acre160:	NE
Acre40:	NE	Acre10:	SE
Utmx:	415885.9	Utmy:	3742991.5
Welltype:	NON-EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	MUNICIPAL
Wateruse2:	Not Reported	Wateruse3:	Not Reported

Approved:	Not Reported	Installed:	01/01/1961 00:00:00
Driller:	0	Welldepth:	535
Waterlevel:	132	Casingtype:	STEEL - PERFORATED OR SLOTTED CASING
Casingdeep:	535	Casingwide:	16
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	140	Testrate:	140
Drawdown:	0	Drilllog:	Not Reported
Lastname:	CAREFREE WATER CO,	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 702		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported

Registryid:	604780	Pump1984:	122.1
Pump1985:	137.84	Pump1986:	22.76
Pump1987:	.5	Pump1988:	.09
Pump1989:	20.66	Pump1990:	39.9
Pump1991:	21.4	Pump1992:	14.33
Pump1993:	9.54	Pump1994:	24.34
Pump1995:	36.77	Pump1996:	31.92
Pump1997:	27.93	Pump1998:	18.25
Pump1999:	11.88	Pumptotal:	540.27

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported
	AZ

E14
NW
1/4 - 1/2 Mile
Lower

AZ WELLS **AZWR527022**

Registryid:	527022	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SW
Acre40:	SW	Acre10:	NE
Utmx:	414689.3	Utmy:	3743599.6
Welltype:	DOMESTIC STOCK EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	02/06/1990 00:00:00
Driller:	355	Welldepth:	200
Waterlevel:	58	Casingtype:	STEEL - PERFORATED OR SLOTTED CASING
Casingdeep:	200	Casingwide:	8
Pumptype:	CENTRIFUGAL	Pumppower:	ELECTRIC MOTOR < 1 HP
Pumprate:	10	Testrate:	10
Drawdown:	20	Drilllog:	X
Lastname:	O'BOYLE, EDWARD,	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 1723		
City:	CAVE CREEK	State:	AZ
Zipcode:	85331	Cancelled:	Not Reported

Driller:	355
Company:	BEEMAN BROTHERS DRILLING, INC.
Address:	44806 N. 14TH STREET NEW RIVER, AZ 85087

E15
NW
1/4 - 1/2 Mile
Lower

AZ WELLS **AZWR537088**

Registryid:	537088	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SW
Acre40:	SW	Acre10:	NE
Utmx:	414689.3	Utmy:	3743599.6
Welltype:	DOMESTIC STOCK EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	Not Reported
Driller:	355	Welldepth:	0
Waterlevel:	0	Casingtype:	Not Reported
Casingdeep:	0	Casingwide:	0
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drillog:	Not Reported
Lastname:	CARNICELLI,L	Firstname:	Not Reported
Company:	Not Reported		
Address:	4139 W PT AU PRINCE		
City:	PHOENIX	State:	AZ
Zipcode:	85023	Cancelled:	Y

Driller:	355
Company:	BEEMAN BROTHERS DRILLING, INC.
Address:	44806 N. 14TH STREET NEW RIVER, AZ 85087

E16
NW
1/4 - 1/2 Mile
Lower

AZ WELLS **AZWR085289**

Registryid:	085289	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SW
Acre40:	SW	Acre10:	NE
Utmx:	414689.3	Utmy:	3743599.6
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported

Approved:	Not Reported	Installed:	01/01/1980 00:00:00
Driller:	127	Welldepth:	200
Waterlevel:	150	Casingtype:	PLASTIC OR PVC
Casingdeep:	203	Casingwide:	5
Pumptype:	SUBMERSIBLE	Pumppower:	ELECTRIC MOTOR < 1 HP
Pumprate:	0	Testrate:	0
Drawdown:	15	Drilllog:	Not Reported
Lastname:	DRAKE,D	Firstname:	Not Reported
Company:	Not Reported		
Address:	1029 MANITOU		
City:	BOISE	State:	ID
Zipcode:	83706	Cancelled:	Not Reported

Driller:	127
Company:	SPUR CROSS DEVELOPMENT, INC.
Address:	38219 N. 3RD AVENUE DESERT HILLS, AZ 85027

E17
NW
1/4 - 1/2 Mile
Lower

AZ WELLS **AZWR517616**

Registryid:	517616	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SW
Acre40:	SW	Acre10:	NE
Utmx:	414689.3	Utmy:	3743599.6
Welltype:	DOMESTIC STOCK EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	Not Reported
Driller:	127	Welldepth:	0
Waterlevel:	0	Casingtype:	Not Reported
Casingdeep:	0	Casingwide:	0
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drilllog:	Not Reported
Lastname:	ALDER, JAMES & JANE,	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 762		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Y

Driller:	127
Company:	SPUR CROSS DEVELOPMENT, INC.
Address:	38219 N. 3RD AVENUE DESERT HILLS, AZ 85027

Map ID Direction Distance Elevation		Database	EDR ID Number
E18 **NW** **1/4 - 1/2 Mile** **Lower**		**AZ WELLS**	**AZWR800715**

Registryid:	800715	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SW
Acre40:	SW	Acre10:	Not Reported
Utmx:	414588.2	Utmy:	3743499.9
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	10/20/1979 00:00:00
Driller:	0	Welldepth:	200
Waterlevel:	65	Casingtype:	PLASTIC OR PVC
Casingdeep:	200	Casingwide:	5
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	20	Testrate:	20
Drawdown:	0	Drilllog:	Not Reported
Lastname:	HUNT,R O	Firstname:	Not Reported
Company:	Not Reported		
Address:	7343 E SCOPA TRAIL		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported AZ

F19 **NE** **1/4 - 1/2 Mile** **Higher**		**AZ WELLS**	**AZWR512174**

Registryid:	512174	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SE
Acre40:	SE	Acre10:	NW
Utmx:	415689.5	Utmy:	3743594.9
Welltype:	DOMESTIC STOCK EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported

Approved:	Not Reported	Installed:	08/27/1985 00:00:00
Driller:	126	Welldepth:	300
Waterlevel:	200	Casingtype:	PLASTIC OR PVC
Casingdeep:	300	Casingwide:	8
Pumptype:	SUBMERSIBLE	Pumppower:	ELECTRIC MOTOR 1 - 5 HP
Pumprate:	33	Testrate:	40
Drawdown:	0	Drilllog:	X
Lastname:	TEMPO WEST INC,	Firstname:	Not Reported
Company:	Not Reported		
Address:	7895 E ACOMA DR #110		
City:	SCOTTSDALE	State:	AZ
Zipcode:	85260	Cancelled:	Not Reported

Driller:	126
Company:	SOIL SAMPLING SERVICE, INC.
Address:	P.O. BOX 710 PUYALLUP, WA 98371

F20
NE
1/4 - 1/2 Mile
Higher

AZ WELLS **AZWR572237**

Registryid:	572237	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SE
Acre40:	SE	Acre10:	NW
Utmx:	415689.5	Utmy:	3743594.9
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	04/02/1999 00:00:00	Installed:	Not Reported
Driller:	141	Welldepth:	0
Waterlevel:	0	Casingtype:	Not Reported
Casingdeep:	0	Casingwide:	0
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drilllog:	Not Reported
Lastname:	JONES	Firstname:	ROBERT W
Company:	Not Reported		
Address:	14002 N 49TH AVE #1062		
City:	GLENDALE	State:	AZ
Zipcode:	85306	Cancelled:	Y

Driller:	141
Company:	UNIVERSAL DRILLING, INC.
Address:	P.O. BOX 1027 WICKENBURG, AZ 85358

Map ID Direction Distance Elevation	Database	EDR ID Number
F21 **NE** **1/4 - 1/2 Mile** **Higher**	**AZ WELLS**	**AZWR803769**

Registryid:	803769	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SE
Acre40:	SE	Acre10:	Not Reported
Utmx:	415788.6	Utmy:	3743494.4
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	Not Reported
Driller:	0	Welldepth:	0
Waterlevel:	0	Casingtype:	STEEL - PERFORATED OR SLOTTED CASING
Casingdeep:	0	Casingwide:	0
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drilllog:	Not Reported
Lastname:	PETERS, BERNICE,A	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 1816		
City:	CAVE CREEK	State:	AZ
Zipcode:	85331	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported AZ

F22 **NE** **1/4 - 1/2 Mile** **Higher**	**AZ WELLS**	**AZWR803770**

Registryid:	803770	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SE
Acre40:	SE	Acre10:	Not Reported
Utmx:	415788.6	Utmy:	3743494.4
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported

Approved:	Not Reported	Installed:	Not Reported
Driller:	0	Welldepth:	0
Waterlevel:	0	Casingtype:	STEEL - PERFORATED OR SLOTTED CASING
Casingdeep:	0	Casingwide:	0
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drillog:	Not Reported
Lastname:	PETERS, BERNICE,A	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 1816		
City:	CAVE CREEK	State:	AZ
Zipcode:	85331	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported AZ

E23
NNW
1/4 - 1/2 Mile
Lower

AZ WELLS **AZWR640595**

Registryid:	640595	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SW
Acre40:	Not Reported	Acre10:	Not Reported
Utmx:	414790.1	Utmy:	3743699.3
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	NONE
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	Not Reported
Driller:	0	Welldepth:	0
Waterlevel:	0	Casingtype:	Not Reported
Casingdeep:	0	Casingwide:	0
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drillog:	Not Reported
Lastname:	DIEDRICH, THAYES & E,	Firstname:	Not Reported
Company:	Not Reported		
Address:	1109 WESTWOOD DR		
City:	PLANO	State:	TX
Zipcode:	75075	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported AZ

Map ID Direction Distance Elevation		Database	EDR ID Number
E24 **NNW** **1/4 - 1/2 Mile** **Lower**		**AZ WELLS**	**AZWR803838**

Registryid:	803838	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SW
Acre40:	Not Reported	Acre10:	Not Reported
Utmx:	414790.1	Utmy:	3743699.3
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	10/01/1972 00:00:00
Driller:	0	Welldepth:	0
Waterlevel:	0	Casingtype:	Not Reported
Casingdeep:	0	Casingwide:	0
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drillog:	Not Reported
Lastname:	WOOD, JEANN,M	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 825		
City:	CAVE CREEK	State:	AZ
Zipcode:	85331	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported AZ

D25 **East** **1/4 - 1/2 Mile** **Higher**		**FED USGS**	**334930111543001**

BASIC WELL DATA

Site Type:	Single well, other than collector or Ranney type		
Year Constructed:	Not Reported	County:	Maricopa
Altitude:	2440.00 ft.	State:	Arizona
Well Depth:	535.00 ft.	Topographic Setting:	Not Reported
Depth to Water Table:	104.00 ft.	Prim. Use of Site:	Withdrawal of water
Date Measured:	04011969	Prim. Use of Water:	Public supply

F26 **NNE** **1/4 - 1/2 Mile** **Higher**		**AZ WELLS**	**AZWR602366**

Registryid:	602366	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SE
Acre40:	Not Reported	Acre10:	Not Reported
Utmx:	415590.2	Utmy:	3743695.5
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	01/01/1972 00:00:00
Driller:	0	Welldepth:	650
Waterlevel:	0	Casingtype:	Not Reported
Casingdeep:	0	Casingwide:	0
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	30	Testrate:	30
Drawdown:	0	Drilllog:	Not Reported
Lastname:	GALLOWAY,H R	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 2383		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported
	AZ

F27
NNE
1/4 - 1/2 Mile
Higher

AZ WELLS **AZWR806754**

Registryid:	806754	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SE
Acre40:	Not Reported	Acre10:	Not Reported
Utmx:	415590.2	Utmy:	3743695.5
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	12/31/1979 00:00:00
Driller:	0	Welldepth:	0
Waterlevel:	0	Casingtype:	Not Reported
Casingdeep:	0	Casingwide:	0
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drilllog:	Not Reported

Lastname:	NICKOLSON, WILLIAM,J	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 5335		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported
Driller:	0		
Company:	NO DRILLER SPECIFIED		
Address:	Not Reported AZ		

F28
NNE
1/4 - 1/2 Mile
Higher

AZ WELLS **AZWR648169**

Registryid:	648169	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SE
Acre40:	Not Reported	Acre10:	Not Reported
Utmx:	415590.2	Utmy:	3743695.5
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	01/01/1957 00:00:00
Driller:	0	Welldepth:	250
Waterlevel:	225	Casingtype:	OTHER - BLACK STEEL - IRON - SEAMLESS
Casingdeep:	0	Casingwide:	4
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	1	Testrate:	1
Drawdown:	0	Drillog:	Not Reported
Lastname:	MC CLLWAIN,R	Firstname:	Not Reported
Company:	Not Reported		
Address:	BOX 2002		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported
Driller:	0		
Company:	NO DRILLER SPECIFIED		
Address:	Not Reported AZ		

G29
WNW
1/4 - 1/2 Mile
Lower

AZ WELLS **AZWR544071**

Registryid:	544071	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SW
Acre40:	SW	Acre10:	SW
Utmx:	414487.3	Utmy:	3743400.3
Welltype:	DOMESTIC STOCK EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	06/27/1994 00:00:00
Driller:	35	Welldepth:	200
Waterlevel:	100	Casingtype:	STEEL - PERFORATED OR SLOTTED CASING
Casingdeep:	200	Casingwide:	7
Pumptype:	SUBMERSIBLE	Pumppower:	ELECTRIC MOTOR 1 - 5 HP
Pumprate:	86	Testrate:	86
Drawdown:	0	Drilllog:	X
Lastname:	GRAINGER, PHILLIP,	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 883		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported

Driller:	35
Company:	CAMPBELL'S DRILLING, INC.
Address:	P.O. BOX 3019 WICKENBURG, AZ 85358

G30
WNW
1/4 - 1/2 Mile
Lower

AZ WELLS **AZWR807351**

Registryid:	807351	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SW
Acre40:	SW	Acre10:	SW
Utmx:	414487.3	Utmy:	3743400.3
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	02/25/1980 00:00:00
Driller:	0	Welldepth:	200
Waterlevel:	125	Casingtype:	PLASTIC OR PVC
Casingdeep:	200	Casingwide:	5
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	15	Testrate:	0
Drawdown:	0	Drilllog:	Not Reported

Lastname:	BISCHOFF, JANE,C	Firstname:	Not Reported
Company:	Not Reported		
Address:	34505 N SCOTTSDALE		
City:	SCOTTSDALE	State:	AZ
Zipcode:	85262	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported AZ

G31
WNW
1/4 - 1/2 Mile
Lower

AZ WELLS **AZWR533284**

Registryid:	533284	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SW
Acre40:	SW	Acre10:	SW
Utmx:	414487.3	Utmy:	3743400.3
Welltype:	DOMESTIC STOCK EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	10/06/1991 00:00:00
Driller:	127	Welldepth:	200
Waterlevel:	100	Casingtype:	PLASTIC OR PVC
Casingdeep:	200	Casingwide:	8
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drilllog:	X
Lastname:	HUNT, W.D,	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 625		
City:	CAVE CREEK	State:	AZ
Zipcode:	85331	Cancelled:	Not Reported

Driller:	127
Company:	SPUR CROSS DEVELOPMENT, INC.
Address:	38219 N. 3RD AVENUE DESERT HILLS, AZ 85027

32
ENE
1/4 - 1/2 Mile
Higher

AZ WELLS **AZWR801084**

Registryid:	801084	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SE
Acre40:	SE	Acre10:	SE
Utmx:	415887.8	Utmy:	3743393.8
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	01/30/1962 00:00:00
Driller:	0	Welldepth:	265
Waterlevel:	265	Casingtype:	OTHER - BLACK STEEL - IRON - SEAMLESS
Casingdeep:	225	Casingwide:	6
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	34	Testrate:	34
Drawdown:	0	Drilllog:	Not Reported
Lastname:	GENTLEMAN COLONEL,A W	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 1023		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported
	AZ

33
NNW
1/2 - 1 Mile
Lower

AZ WELLS **AZWR638233**

Registryid:	638233	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SW
Acre40:	NE	Acre10:	SW
Utmx:	414891.1	Utmy:	3743798.9
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	Not Reported
Driller:	0	Welldepth:	0
Waterlevel:	0	Casingtype:	Not Reported
Casingdeep:	0	Casingwide:	0
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drilllog:	Not Reported

Lastname:	WOOD,J M	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 233		
City:	CAVE CREEK	State:	AZ
Zipcode:	85331	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported AZ

E34
NW
1/2 - 1 Mile
Lower

AZ WELLS **AZWR085006**

Registryid:	085006	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SW
Acre40:	SW	Acre10:	NW
Utmx:	414489.1	Utmy:	3743600.6
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	Not Reported
Driller:	42	Welldepth:	0
Waterlevel:	0	Casingtype:	Not Reported
Casingdeep:	0	Casingwide:	0
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drilllog:	Not Reported
Lastname:	DICKINSON,D	Firstname:	Not Reported
Company:	Not Reported		
Address:	BOX 1108		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Y

Driller:	42
Company:	COUNCILMAN ENTERPRISES INC.
Address:	Not Reported CAVE CREEK, AZ

E35
NW
1/2 - 1 Mile
Lower

AZ WELLS **AZWR513080**

Registryid:	513080	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SW
Acre40:	SW	Acre10:	NW
Utmx:	414489.1	Utmy:	3743600.6
Welltype:	DOMESTIC STOCK EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	*Not Reported*	*Wateruse3:*	*Not Reported*
Approved:	Not Reported	Installed:	12/30/1985 00:00:00
Driller:	127	Welldepth:	200
Waterlevel:	140	Casingtype:	PLASTIC OR PVC
Casingdeep:	200	Casingwide:	5
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drillog:	X
Lastname:	CHOMICKE, FRANK,	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 1632		
City:	CAVE CREEK	State:	AZ
Zipcode:	85331	Cancelled:	Not Reported

Driller:	127
Company:	SPUR CROSS DEVELOPMENT, INC.
Address:	38219 N. 3RD AVENUE DESERT HILLS, AZ 85027

E36
NW
1/2 - 1 Mile
Lower

FED USGS **334954111552401**

BASIC WELL DATA

Site Type:	Single well, other than collector or Ranney type		
Year Constructed:	1975	County:	Maricopa
Altitude:	2340.00 ft.	State:	Arizona
Well Depth:	Not Reported	*Topographic Setting:*	*Alluvial or marine terrace*
Depth to Water Table:	Not Reported	Prim. Use of Site:	Withdrawal of water
Date Measured:	Not Reported	Prim. Use of Water:	Domestic

H37
SE
1/2 - 1 Mile
Higher

FED USGS **334914111543301**

BASIC WELL DATA

Site Type:	Single well, other than collector or Ranney type		
Year Constructed:	1972	County:	Maricopa
Altitude:	2470.00 ft.	State:	Arizona
Well Depth:	380.00 ft.	Topographic Setting:	Undulating
Depth to Water Table:	Not Reported	Prim. Use of Site:	Withdrawal of water
Date Measured:	Not Reported	Prim. Use of Water:	Public supply

Map ID Direction Distance Elevation	Database	EDR ID Number
38 **West** **1/2 - 1 Mile** **Lower**	**AZ WELLS**	**AZWR800833**

Registryid:	800833	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	34	Acre160:	NE
Acre40:	NE	Acre10:	NE
Utmx:	414285.1	Utmy:	3743200.9
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	IRRIGATION	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	01/01/1950 00:00:00
Driller:	0	Welldepth:	225
Waterlevel:	190	Casingtype:	Not Reported
Casingdeep:	200	Casingwide:	4
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	35	Testrate:	35
Drawdown:	0	Drillog:	Not Reported
Lastname:	JEFFRESS,E B	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 982		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported AZ

E39 **NNW** **1/2 - 1 Mile** **Lower**	**AZ WELLS**	**AZWR640371**

Registryid:	640371	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SW
Acre40:	NW	Acre10:	SE
Utmx:	414691.1	Utmy:	3743799.9
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported

Approved:	Not Reported	Installed:	01/01/1968 00:00:00
Driller:	0	Welldepth:	95
Waterlevel:	41	Casingtype:	STEEL - PERFORATED OR SLOTTED CASING
Casingdeep:	0	Casingwide:	6
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	29	Testrate:	29
Drawdown:	0	Drilllog:	Not Reported
Lastname:	THOMPSON, ROBERT,W	Firstname:	Not Reported
Company:	Not Reported		
Address:	BOX 2333		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported AZ

E40
NNW
1/2 - 1 Mile
Lower

AZ WELLS **AZWR633667**

Registryid:	633667	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SW
Acre40:	NW	Acre10:	SE
Utmx:	414691.1	Utmy:	3743799.9
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	IRRIGATION	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	Not Reported
Driller:	0	Welldepth:	0
Waterlevel:	0	Casingtype:	Not Reported
Casingdeep:	0	Casingwide:	0
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	34	Testrate:	34
Drawdown:	0	Drilllog:	Not Reported
Lastname:	AUSMAN JR,E L	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 2575		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported AZ

Map ID Direction Distance Elevation	Database	EDR ID Number
E41 **NNW** **1/2 - 1 Mile** **Lower**	**AZ WELLS**	**AZWR525029**

Registryid:	525029	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SW
Acre40:	NW	Acre10:	SE
Utmx:	414691.1	Utmy:	3743799.9
Welltype:	DOMESTIC STOCK EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	06/25/1989 00:00:00
Driller:	127	Welldepth:	300
Waterlevel:	150	Casingtype:	PLASTIC OR PVC
Casingdeep:	300	Casingwide:	8
Pumptype:	SUBMERSIBLE	Pumppower:	ELECTRIC MOTOR 1 - 5 HP
Pumprate:	10	Testrate:	35
Drawdown:	0	Drilllog:	X
Lastname:	MOSER, ALVIN,	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 5430		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported

Driller:	127
Company:	SPUR CROSS DEVELOPMENT, INC.
Address:	38219 N. 3RD AVENUE DESERT HILLS, AZ 85027

E42 **NNW** **1/2 - 1 Mile** **Lower**	**AZ WELLS**	**AZWR524910**

Registryid:	524910	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SW
Acre40:	NW	Acre10:	SE
Utmx:	414691.1	Utmy:	3743799.9
Welltype:	DOMESTIC STOCK EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported

Approved:	Not Reported	Installed:	06/04/1989 00:00:00
Driller:	127	Welldepth:	300
Waterlevel:	200	Casingtype:	PLASTIC OR PVC
Casingdeep:	300	Casingwide:	8
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drillog:	X
Lastname:	MARK, ADOLF DE-ROY,	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 1052		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported

Driller:	127
Company:	SPUR CROSS DEVELOPMENT, INC.
Address:	38219 N. 3RD AVENUE DESERT HILLS, AZ 85027

G43
WNW
1/2 - 1 Mile
Lower

FED USGS **334945111553301**

BASIC WELL DATA

Site Type:	Single well, other than collector or Ranney type		
Year Constructed:	Not Reported	County:	Maricopa
Altitude:	2310.00 ft.	State:	Arizona
Well Depth:	128.00 ft.	Topographic Setting:	Alluvial or marine terrace
Depth to Water Table:	30.06 ft.	Prim. Use of Site:	Withdrawal of water
Date Measured:	05081962	Prim. Use of Water:	Domestic

H44
ESE
1/2 - 1 Mile
Higher

FED USGS **334918111542801**

BASIC WELL DATA

Site Type:	Single well, other than collector or Ranney type		
Year Constructed:	1972	County:	Maricopa
Altitude:	2455.00 ft.	State:	Arizona
Well Depth:	385.00 ft.	Topographic Setting:	Not Reported
Depth to Water Table:	105.00 ft.	Prim. Use of Site:	Not Reported
Date Measured:	04011972	Prim. Use of Water:	Not Reported

G45
WNW
1/2 - 1 Mile
Lower

FED USGS **334946111553301**

BASIC WELL DATA

Site Type:	Single well, other than collector or Ranney type		
Year Constructed:	1918	County:	Maricopa
Altitude:	2310.00 ft.	State:	Arizona
Well Depth:	125.00 ft.	Topographic Setting:	Alluvial or marine terrace
Depth to Water Table:	Not Reported	Prim. Use of Site:	Unused
Date Measured:	Not Reported	Prim. Use of Water:	Not Reported

Map ID Direction Distance Elevation		Database	EDR ID Number
I46 **SW** **1/2 - 1 Mile** **Lower**		**AZ WELLS**	**AZWR534767**

Registryid:	534767	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	35	Acre160:	SW
Acre40:	NW	Acre10:	NW
Utmx:	414479.2	Utmy:	3742396.6
Welltype:	DOMESTIC STOCK EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	Not Reported
Driller:	127	Welldepth:	0
Waterlevel:	0	Casingtype:	Not Reported
Casingdeep:	0	Casingwide:	0
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drilllog:	Not Reported
Lastname:	PROCTOR, DAROLD,	Firstname:	Not Reported
Company:	Not Reported		
Address:	8222 E TURNEY		
City:	SCOTTSDALE	State:	AZ
Zipcode:	85251	Cancelled:	Y

Driller:	127
Company:	SPUR CROSS DEVELOPMENT, INC.
Address:	38219 N. 3RD AVENUE DESERT HILLS, AZ 85027

I47 **SW** **1/2 - 1 Mile** **Lower**		**AZ WELLS**	**AZWR540550**

Registryid:	540550	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	35	Acre160:	SW
Acre40:	NW	Acre10:	NW
Utmx:	414479.2	Utmy:	3742396.6
Welltype:	DOMESTIC STOCK EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported

Approved:	Not Reported	Installed:	Not Reported
Driller:	127	Welldepth:	0
Waterlevel:	0	Casingtype:	Not Reported
Casingdeep:	0	Casingwide:	0
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drilllog:	Not Reported
Lastname:	PROCTOR, DAROLD,	Firstname:	Not Reported
Company:	Not Reported		
Address:	12930 E MERCER LANE		
City:	SCOTTSDALE	State:	AZ
Zipcode:	85259	Cancelled:	Y

Driller:	127
Company:	SPUR CROSS DEVELOPMENT, INC.
Address:	38219 N. 3RD AVENUE DESERT HILLS, AZ 85027

I48
SW
1/2 - 1 Mile
Lower

AZ WELLS **AZWR557337**

Registryid:	557337	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	35	Acre160:	SW
Acre40:	NW	Acre10:	NW
Utmx:	414479.2	Utmy:	3742396.6
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	12/09/1996 00:00:00
Driller:	127	Welldepth:	300
Waterlevel:	30	Casingtype:	PLASTIC OR PVC
Casingdeep:	300	Casingwide:	6
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drilllog:	X
Lastname:	PROCTOR, DAROLD,E	Firstname:	Not Reported
Company:	Not Reported		
Address:	12930 E MERCER LN		
City:	SCOTTSDALE	State:	AZ
Zipcode:	85259	Cancelled:	Not Reported

Driller:	127
Company:	SPUR CROSS DEVELOPMENT, INC.
Address:	38219 N. 3RD AVENUE DESERT HILLS, AZ 85027

Map ID Direction Distance Elevation	Database	EDR ID Number
J49 **North** **1/2 - 1 Mile** **Lower**	**FED USGS**	**335004111545901**

BASIC WELL DATA

Site Type:	Single well, other than collector or Ranney type		
Year Constructed:	1975	County:	Maricopa
Altitude:	2400.00 ft.	State:	Arizona
Well Depth:	305.00 ft.	Topographic Setting:	Hilltop
Depth to Water Table:	Not Reported	Prim. Use of Site:	Unused
Date Measured:	Not Reported	Prim. Use of Water:	Not Reported

G50 **WNW** **1/2 - 1 Mile** **Lower**	**AZ WELLS**	**AZWR639925**

Registryid:	639925	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	27	Acre160:	SE
Acre40:	SE	Acre10:	SE
Utmx:	414286.7	Utmy:	3743401.4
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	Not Reported
Driller:	0	Welldepth:	0
Waterlevel:	0	Casingtype:	Not Reported
Casingdeep:	0	Casingwide:	0
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	34	Testrate:	34
Drawdown:	0	Drilllog:	Not Reported
Lastname:	REESE ET AL,B A	Firstname:	Not Reported
Company:	Not Reported		
Address:	511 E CHEERY LYNN RD		
City:	PHOENIX	State:	AZ
Zipcode:	85012	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported AZ

J51 **North** **1/2 - 1 Mile** **Lower**	**AZ WELLS**	**AZWR629982**

Registryid:	629982	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SE
Acre40:	NW	Acre10:	NW
Utmx:	415292.8	Utmy:	3743997.3
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	01/01/1974 00:00:00
Driller:	0	Welldepth:	300
Waterlevel:	0	Casingtype:	STEEL - PERFORATED OR SLOTTED CASING
Casingdeep:	300	Casingwide:	6
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drilllog:	Not Reported
Lastname:	MALFETTI, JAMES,L	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 5327		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported AZ

K52
NW
1/2 - 1 Mile
Lower

AZ WELLS **AZWR639198**

Registryid:	639198	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SW
Acre40:	NW	Acre10:	SW
Utmx:	414490.9	Utmy:	3743800.8
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	Not Reported
Driller:	0	Welldepth:	0
Waterlevel:	0	Casingtype:	Not Reported
Casingdeep:	0	Casingwide:	0
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drilllog:	Not Reported

Lastname:	YEE, BRIAN,	Firstname:	Not Reported
Company:	Not Reported		
Address:	7233 HORIZON DR EAST		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Y

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported AZ

K53
NW
1/2 - 1 Mile
Lower

AZ WELLS **AZWR540066**

Registryid:	540066	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SW
Acre40:	NW	Acre10:	SW
Utmx:	414490.9	Utmy:	3743800.8
Welltype:	DOMESTIC STOCK EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	08/04/1993 00:00:00
Driller:	35	Welldepth:	300
Waterlevel:	75	Casingtype:	STEEL - PERFORATED OR SLOTTED CASING
Casingdeep:	300	Casingwide:	7
Pumptype:	CENTRIFUGAL	Pumppower:	ELECTRIC MOTOR < 1 HP
Pumprate:	23	Testrate:	60
Drawdown:	0	Drillog:	X
Lastname:	BLOEHS, JAY,E	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 3133		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported

Driller:	35
Company:	CAMPBELL'S DRILLING, INC.
Address:	P.O. BOX 3019 WICKENBURG, AZ 85358

K54
NW
1/2 - 1 Mile
Lower

AZ WELLS **AZWR523220**

Registryid:	523220	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SW
Acre40:	NW	Acre10:	SW
Utmx:	414490.9	Utmy:	3743800.8
Welltype:	DOMESTIC STOCK EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	06/14/1989 00:00:00
Driller:	355	Welldepth:	195
Waterlevel:	40	Casingtype:	STEEL - PERFORATED OR SLOTTED CASING
Casingdeep:	195	Casingwide:	8
Pumptype:	SUBMERSIBLE	Pumppower:	ELECTRIC MOTOR 1 - 5 HP
Pumprate:	35	Testrate:	35
Drawdown:	0	Drilllog:	X
Lastname:	MONACELLI, MARIO,	Firstname:	Not Reported
Company:	Not Reported		
Address:	601 W TONOPAH DR #4		
City:	PHOENIX	State:	AZ
Zipcode:	85027	Cancelled:	Not Reported

Driller:	355
Company:	BEEMAN BROTHERS DRILLING, INC.
Address:	44806 N. 14TH STREET NEW RIVER, AZ 85087

K55
NW
1/2 - 1 Mile
Lower

AZ WELLS ***AZWR536365***

Registryid:	536365	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SW
Acre40:	NW	Acre10:	SW
Utmx:	414490.9	Utmy:	3743800.8
Welltype:	DOMESTIC STOCK EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	09/15/1992 00:00:00
Driller:	127	Welldepth:	360
Waterlevel:	260	Casingtype:	PLASTIC OR PVC
Casingdeep:	360	Casingwide:	6
Pumptype:	SUBMERSIBLE	Pumppower:	ELECTRIC MOTOR < 1 HP
Pumprate:	12	Testrate:	0
Drawdown:	0	Drilllog:	X

Lastname:	YEE, BRIAN,	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 2636		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported

Driller:	127
Company:	SPUR CROSS DEVELOPMENT, INC.
Address:	38219 N. 3RD AVENUE DESERT HILLS, AZ 85027

K56
NW
1/2 - 1 Mile
Lower

AZ WELLS **AZWR804103**

Registryid:	804103	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SW
Acre40:	NW	Acre10:	Not Reported
Utmx:	414591.8	Utmy:	3743900.5
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	01/01/1968 00:00:00
Driller:	0	Welldepth:	0
Waterlevel:	50	Casingtype:	STEEL - PERFORATED OR SLOTTED CASING
Casingdeep:	600	Casingwide:	0
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drilllog:	Not Reported
Lastname:	MOSER, ALVIN & DONNA,	Firstname:	Not Reported
Company:	Not Reported		
Address:	7343 HORIZON DR EAST		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported AZ

K57
NW
1/2 - 1 Mile
Lower

AZ WELLS **AZWR636350**

Registryid:	636350	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SW
Acre40:	NW	Acre10:	Not Reported
Utmx:	414591.8	Utmy:	3743900.5
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	Not Reported
Driller:	0	Welldepth:	0
Waterlevel:	0	Casingtype:	Not Reported
Casingdeep:	0	Casingwide:	0
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	15	Testrate:	15
Drawdown:	0	Drilllog:	Not Reported
Lastname:	PARISH,N F	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 2046		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported
	AZ

58
NNW
1/2 - 1 Mile
Lower

AZ WELLS **AZWR538118**

Registryid:	538118	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SW
Acre40:	NW	Acre10:	NE
Utmx:	414692.8	Utmy:	3744000.1
Welltype:	DOMESTIC STOCK EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	02/17/1993 00:00:00
Driller:	127	Welldepth:	400
Waterlevel:	280	Casingtype:	PLASTIC OR PVC
Casingdeep:	0	Casingwide:	84
Pumptype:	SUBMERSIBLE	Pumppower:	ELECTRIC MOTOR 1 - 5 HP
Pumprate:	12	Testrate:	0
Drawdown:	0	Drilllog:	X

Lastname:	KICKBUSH, ROLAND,	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 2951		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported

Driller:	127
Company:	SPUR CROSS DEVELOPMENT, INC.
Address:	38219 N. 3RD AVENUE DESERT HILLS, AZ 85027

59
NNE
1/2 - 1 Mile
Higher

AZ WELLS **AZWR638748**

Registryid:	638748	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SE
Acre40:	NE	Acre10:	NW
Utmx:	415692.8	Utmy:	3743995.5
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	IRRIGATION	Wateruse3:	STOCK
Approved:	Not Reported	Installed:	01/01/1972 00:00:00
Driller:	0	Welldepth:	0
Waterlevel:	0	Casingtype:	STEEL - PERFORATED OR SLOTTED CASING
Casingdeep:	0	Casingwide:	6
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drilllog:	Not Reported
Lastname:	CLEM II,S E	Firstname:	Not Reported
Company:	Not Reported		
Address:	7838 HORIZON DR		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported AZ

L60
WNW
1/2 - 1 Mile
Lower

AZ WELLS **AZWR803771**

Registryid:	803771	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	27	Acre160:	SE
Acre40:	SE	Acre10:	Not Reported
Utmx:	414187.4	Utmy:	3743502.3
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	Not Reported
Driller:	0	Welldepth:	0
Waterlevel:	0	Casingtype:	STEEL - PERFORATED OR SLOTTED CASING
Casingdeep:	0	Casingwide:	0
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drilllog:	Not Reported
Lastname:	PETERS, BERNICE,A	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 1816		
City:	CAVE CREEK	State:	AZ
Zipcode:	85331	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported AZ

H61
SE
1/2 - 1 Mile
Higher

AZ WELLS **AZWR611876**

Registryid:	611876	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	36	Acre160:	SW
Acre40:	NW	Acre10:	NW
Utmx:	416084	Utmy:	3742386.1
Welltype:	NON-EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	IRRIGATION
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	03/03/1972 00:00:00
Driller:	0	Welldepth:	380
Waterlevel:	105	Casingtype:	STEEL - PERFORATED OR SLOTTED CASING
Casingdeep:	380	Casingwide:	16
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	225	Testrate:	0
Drawdown:	0	Drilllog:	Not Reported

Lastname:	CAREFREE WTR CO INC,	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 7724		
City:	PHOENIX	State:	AZ
Zipcode:	85011	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported AZ

H62
SE
1/2 - 1 Mile
Higher

AZ WELLS AZWR503642

Registryid:	503642	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	36	Acre160:	SW
Acre40:	NW	Acre10:	NW
Utmx:	416084	Utmy:	3742386.1
Welltype:	NON-EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	IRRIGATION
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	08/01/1982 00:00:00
Driller:	127	Welldepth:	900
Waterlevel:	141	Casingtype:	STEEL - PERFORATED OR SLOTTED CASING
Casingdeep:	360	Casingwide:	16
Pumptype:	SUBMERSIBLE	Pumppower:	ELECTRIC MOTOR 16 - 100 HP
Pumprate:	99	Testrate:	99
Drawdown:	160	Drilllog:	X
Lastname:	CAREFREE WTR CO INC,	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 7724		
City:	PHOENIX	State:	AZ
Zipcode:	85011	Cancelled:	Not Reported

Registryid:	503642	Pump1984:	26.6
Pump1985:	0	Pump1986:	0
Pump1987:	0	Pump1988:	0
Pump1989:	0	Pump1990:	0
Pump1991:	0	Pump1992:	0
Pump1993:	0	Pump1994:	0
Pump1995:	0	Pump1996:	0
Pump1997:	19.75	Pump1998:	0
Pump1999:	0	Pumptotal:	46.35

Driller:	127
Company:	SPUR CROSS DEVELOPMENT, INC.
Address:	38219 N. 3RD AVENUE DESERT HILLS, AZ 85027

Map ID Direction Distance Elevation	Database	EDR ID Number
K63 **NW** **1/2 - 1 Mile** **Lower**	**AZ WELLS**	**AZWR640368**

Registryid:	640368	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SW
Acre40:	NW	Acre10:	NW
Utmx:	414492.8	Utmy:	3744001.1
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	04/14/1972 00:00:00
Driller:	*0*	*Welldepth:*	*132*
Waterlevel:	20	Casingtype:	OTHER - BLACK STEEL - IRON - SEAMLESS
Casingdeep:	0	Casingwide:	7
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	30	Testrate:	0
Drawdown:	0	Drilllog:	Not Reported
Lastname:	STEVENS, RODGER,W	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 266		
City:	CAVE CREEK	State:	AZ
Zipcode:	85331	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported AZ

K64 **NW** **1/2 - 1 Mile** **Lower**	***AZ WELLS***	***AZWR638263***

Registryid:	638263	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SW
Acre40:	NW	Acre10:	NW
Utmx:	*414492.8*	Utmy:	*3744001.1*
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported

Approved:	Not Reported	Installed:	01/01/1976 00:00:00
Driller:	0	Welldepth:	140
Waterlevel:	0	Casingtype:	Not Reported
Casingdeep:	0	Casingwide:	0
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	35	Testrate:	35
Drawdown:	0	Drilllog:	Not Reported
Lastname:	SUTER, RICHARD,M	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 5734		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported
	AZ

M65
West
1/2 - 1 Mile
Lower

AZ WELLS **AZWR634975**

Registryid:	634975	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	34	Acre160:	NE
Acre40:	Not Reported	Acre10:	Not Reported
Utmx:	413981.8	Utmy:	3742901.7
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	01/01/1961 00:00:00
Driller:	0	Welldepth:	96
Waterlevel:	60	Casingtype:	OTHER - BLACK STEEL - IRON - SEAMLESS
Casingdeep:	90	Casingwide:	6
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	5	Testrate:	5
Drawdown:	0	Drilllog:	Not Reported
Lastname:	VIGDAL	Firstname:	JERALD & ROBIN
Company:	Not Reported		
Address:	PO BOX 7278		
City:	CAVE CREEK	State:	AZ
Zipcode:	85327	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported
	AZ

Map ID Direction Distance Elevation	Database	EDR ID Number
L66 **WNW** **1/2 - 1 Mile** **Lower**	**FED USGS**	**334945111554701**

BASIC WELL DATA

Site Type:	Single well, other than collector or Ranney type		
Year Constructed:	Not Reported	County:	Maricopa
Altitude:	*2320.00 ft.*	*State:*	*Arizona*
Well Depth:	Not Reported	Topographic Setting:	Hillside (slope)
Depth to Water Table:	Not Reported	Prim. Use of Site:	Unused
Date Measured:	Not Reported	Prim. Use of Water:	Not Reported

M67 **West** **1/2 - 1 Mile** **Lower**	**AZ WELLS**	**AZWR633045**	

Registryid:	633045	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	*34*	*Acre160:*	NE
Acre40:	NW	Acre10:	SE
Utmx:	413882.5	Utmy:	3743002.7
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	01/01/1952 00:00:00
Driller:	0	Welldepth:	0
Waterlevel:	0	Casingtype:	Not Reported
Casingdeep:	0	Casingwide:	0
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drilllog:	Not Reported
Lastname:	PERRY,B P	Firstname:	Not Reported
Company:	Not Reported		
Address:	*PO BOX 3*		
City:	CAVE CREEK	State:	AZ
Zipcode:	85331	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported AZ

N68 **West** **1/2 - 1 Mile** **Lower**	**AZ WELLS**	**AZWR631418**

Registryid:	631418	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	34	Acre160:	NE
Acre40:	NW	Acre10:	NE
Utmx:	413884.3	Utmy:	3743203.5
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	IRRIGATION
Wateruse2:	DOMESTIC	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	Not Reported
Driller:	0	Welldepth:	210
Waterlevel:	100	Casingtype:	STEEL - PERFORATED OR SLOTTED CASING
Casingdeep:	100	Casingwide:	8
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	35	Testrate:	35
Drawdown:	0	Drilllog:	Not Reported
Lastname:	WIEGERS, ROLLAND,L	Firstname:	Not Reported
Company:	Not Reported		
Address:	7345 JACKRABBITT RD		
City:	SCOTTSDALE	State:	AZ
Zipcode:	85253	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported AZ

O69
NW
1/2 - 1 Mile
Lower

AZ WELLS **AZWR502299**

Registryid:	502299	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	27	Acre160:	SE
Acre40:	NE	Acre10:	NE
Utmx:	414292.3	Utmy:	3744002.4
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	03/30/1982 00:00:00
Driller:	127	Welldepth:	260
Waterlevel:	0	Casingtype:	PLASTIC OR PVC
Casingdeep:	260	Casingwide:	8
Pumptype:	SUBMERSIBLE	Pumppower:	ELECTRIC MOTOR < 1 HP
Pumprate:	0	Testrate:	0
Drawdown:	0	Drilllog:	X

Lastname:	ASAKAWA,D	Firstname:	Not Reported
Company:	Not Reported		
Address:	1517 E DESERT PK LN		
City:	PHOENIX	State:	AZ
Zipcode:	85020	Cancelled:	Not Reported

Driller:	127
Company:	SPUR CROSS DEVELOPMENT, INC.
Address:	38219 N. 3RD AVENUE DESERT HILLS, AZ 85027

P70
WNW
1/2 - 1 Mile
Lower

AZ WELLS **AZWR638093**

Registryid:	638093	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	27	Acre160:	SE
Acre40:	Not Reported	Acre10:	Not Reported
Utmx:	413988.8	Utmy:	3743703.9
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	01/01/1974 00:00:00
Driller:	0	Welldepth:	160
Waterlevel:	0	Casingtype:	Not Reported
Casingdeep:	0	Casingwide:	0
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	35	Testrate:	35
Drawdown:	0	Drilllog:	Not Reported
Lastname:	WHITE,V W	Firstname:	Not Reported
Company:	Not Reported		
Address:	STAR RT 1 BOX 585		
City:	CAVE CREEK	State:	AZ
Zipcode:	85331	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported AZ

Q71
WNW
1/2 - 1 Mile
Lower

FED USGS **334947111555201**

BASIC WELL DATA

Site Type:	Single well, other than collector or Ranney type		
Year Constructed:	1957	County:	Maricopa
Altitude:	2295.00 ft.	State:	Arizona
Well Depth:	63.00 ft.	Topographic Setting:	Hillside (slope)
Depth to Water Table:	29.30 ft.	Prim. Use of Site:	Unused
Date Measured:	05081962	Prim. Use of Water:	Not Reported

Map ID Direction Distance Elevation	Database	EDR ID Number
P72 **WNW** **1/2 - 1 Mile** **Lower**	**AZ WELLS**	**AZWR800889**

Registryid:	800889	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	27	Acre160:	SE
Acre40:	SW	Acre10:	NE
Utmx:	413887.5	Utmy:	3743604.5
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	IRRIGATION	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	01/01/1968 00:00:00
Driller:	0	Welldepth:	200
Waterlevel:	60	Casingtype:	STEEL - PERFORATED OR SLOTTED CASING
Casingdeep:	180	Casingwide:	6
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	60	Testrate:	60
Drawdown:	0	Drillog:	Not Reported
Lastname:	HIPES,J H	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 682		
City:	CAVE CREEK	State:	AZ
Zipcode:	85331	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported AZ

O73 **NW** **1/2 - 1 Mile** **Lower**	**AZ WELLS**	**AZWR648056**

Registryid:	648056	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	27	Acre160:	SE
Acre40:	NE	Acre10:	NW
Utmx:	414091.6	Utmy:	3744003.7
Welltype:	EXEMPT	Welluse1:	ABANDONED
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported

Approved:	Not Reported	Installed:	06/25/1977 00:00:00
Driller:	127	Welldepth:	150
Waterlevel:	50	Casingtype:	STEEL - PERFORATED OR SLOTTED CASING
Casingdeep:	150	Casingwide:	12
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drillog:	Not Reported
Lastname:	WHITTAKER	Firstname:	MICHAEL F
Company:	Not Reported		
Address:	28029 N 111TH WAY		
City:	SCOTTSDALE	State:	AZ
Zipcode:	85255	Cancelled:	Y

Driller: 127
Company: SPUR CROSS DEVELOPMENT, INC.
Address: 38219 N. 3RD AVENUE
DESERT HILLS, AZ 85027

Q74
WNW
1/2 - 1 Mile
Lower

AZ WELLS **AZWR804020**

Registryid:	804020	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	27	Acre160:	SE
Acre40:	SW	Acre10:	Not Reported
Utmx:	413786.4	Utmy:	3743505
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	IRRIGATION
Wateruse2:	DOMESTIC	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	Not Reported
Driller:	0	Welldepth:	0
Waterlevel:	0	Casingtype:	Not Reported
Casingdeep:	0	Casingwide:	0
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drillog:	Not Reported
Lastname:	KOPCHA, MICHAEL,P	Firstname:	Not Reported
Company:	Not Reported		
Address:	1821 BENEDICT CYN		
City:	BEVERLY HILLS	State:	CA
Zipcode:	90210	Cancelled:	Not Reported

Driller: 0
Company: NO DRILLER SPECIFIED
Address: Not Reported
AZ

Map ID Direction Distance Elevation	Database	EDR ID Number
P75 **WNW** **1/2 - 1 Mile** **Lower**	**AZ WELLS**	**AZWR518050**

Registryid:	518050	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	27	Acre160:	SE
Acre40:	NW	Acre10:	SE
Utmx:	413889.3	Utmy:	3743804.8
Welltype:	SERVICE	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	UTILITY (WATER CO)
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	01/31/1988 00:00:00
Driller:	7	Welldepth:	715
Waterlevel:	24	Casingtype:	STEEL - PERFORATED OR SLOTTED CASING
Casingdeep:	715	Casingwide:	10
Pumptype:	SUBMERSIBLE	Pumppower:	ELECTRIC MOTOR 16 - 100 HP
Pumprate:	200	Testrate:	400
Drawdown:	400	Drillog:	X
Lastname:	CAVE CREEK WATER CO,	Firstname:	Not Reported
Company:	Not Reported		
Address:	4231 N 44TH ST		
City:	PHOENIX	State:	AZ
Zipcode:	85018	Cancelled:	Not Reported

Registryid:	518050	Pump1984:	0
Pump1985:	0	Pump1986:	0
Pump1987:	0	Pump1988:	96
Pump1989:	99.1	Pump1990:	97.5
Pump1991:	90.8	Pump1992:	83.4
Pump1993:	81.6	Pump1994:	123.9
Pump1995:	103.8	Pump1996:	101
Pump1997:	99.9	Pump1998:	129.8
Pump1999:	140.3	Pumptotal:	1419.9

Driller:	7
Company:	LAYNE CHRISTENSEN COMPANY
Address:	12030 EAST RIGGS ROAD CHANDLER, AZ 85249

N76 **West** **1/2 - 1 Mile** **Lower**	**AZ WELLS**	**AZWR634407**

Registryid:	634407	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	34	Acre160:	NE
Acre40:	NW	Acre10:	NW
Utmx:	413683.9	Utmy:	3743204.8
Welltype:	EXEMPT	Welluse1:	ABANDONED
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	01/01/1960 00:00:00
Driller:	674	Welldepth:	150
Waterlevel:	20	Casingtype:	OTHER - BLACK STEEL - IRON - SEAMLESS
Casingdeep:	40	Casingwide:	6
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	5	Testrate:	5
Drawdown:	0	Drilllog:	Not Reported
Lastname:	CHILDS	Firstname:	GEORGE AND BONN
Company:	Not Reported		
Address:	6822 SKYLINE DRIVE		
City:	CAVE CREEK	State:	AZ
Zipcode:	85331	Cancelled:	Y

Driller:	674
Company:	COLLUM DRILLING, INC.
Address:	18 E. YEARLING ROAD PHOENIX, AZ 85027

77
NNW
1/2 - 1 Mile
Lower

AZ WELLS **AZWR601779**

Registryid:	601779	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	NW
Acre40:	SW	Acre10:	NW
Utmx:	414496.4	Utmy:	3744401.6
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	01/01/1950 00:00:00
Driller:	0	Welldepth:	110
Waterlevel:	40	Casingtype:	PLASTIC OR PVC
Casingdeep:	90	Casingwide:	6
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	30	Testrate:	30
Drawdown:	0	Drilllog:	Not Reported

Lastname:	BLACK	Firstname:	JUDY A
Company:	Not Reported		
Address:	208 VIRGINIA AVE		
City:	ALEXANDRIA	State:	VA
Zipcode:	22302	Cancelled:	Not Reported
Driller:	0		
Company:	NO DRILLER SPECIFIED		
Address:	Not Reported		
	AZ		

78
East
1/2 - 1 Mile
Higher

AZ WELLS **AZWR604781**

Registryid:	604781	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	36	Acre160:	NW
Acre40:	SE	Acre10:	NE
Utmx:	416689.4	Utmy:	3742784.5
Welltype:	NON-EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	MUNICIPAL
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	03/15/1982 00:00:00
Driller:	0	Welldepth:	1091
Waterlevel:	191	Casingtype:	STEEL - PERFORATED OR SLOTTED CASING
Casingdeep:	1091	Casingwide:	16
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	575	Testrate:	575
Drawdown:	0	Drilllog:	Not Reported
Lastname:	CAREFREE WATER CO,	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 702		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported
Registryid:	604781	Pump1984:	385.4
Pump1985:	213.82	Pump1986:	320.99
Pump1987:	452.9	Pump1988:	529.3
Pump1989:	492.2	Pump1990:	442.82
Pump1991:	500.01	Pump1992:	480.85
Pump1993:	490.14	Pump1994:	508.17
Pump1995:	458.88	Pump1996:	490.16
Pump1997:	529.01	Pump1998:	479.16
Pump1999:	264.9	Pumptotal:	7296.43
Driller:	0		
Company:	NO DRILLER SPECIFIED		
Address:	Not Reported		
	AZ		

GEOCHECK®- PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID Direction Distance Elevation	Database	EDR ID Number
Q79 **WNW** **1/2 - 1 Mile** **Lower**	**AZ WELLS**	**AZWR634964**

Registryid:	634964	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	27	Acre160:	SE
Acre40:	SW	Acre10:	SW
Utmx:	413685.4	Utmy:	3743405.5
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	01/01/1956 00:00:00
Driller:	0	Welldepth:	96
Waterlevel:	0	Casingtype:	OTHER - BLACK STEEL - IRON - SEAMLESS
Casingdeep:	0	Casingwide:	6
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drillog:	Not Reported
Lastname:	SIPCHENKO,L	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 45		
City:	CAVE CREEK	State:	AZ
Zipcode:	85331	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported AZ

GEOCHECK®- PHYSICAL SETTING SOURCE MAP FINDINGS
RADON

AREA RADON INFORMATION

Federal EPA Radon Zone for MARICOPA County: 2

Note: Zone 1 indoor average level > 4 pCi/L.
: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
: Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for MARICOPA COUNTY, AZ

Number of sites tested: 695

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	1.697 pCi/L	93%	7%	0%
Living Area - 2nd Floor	3.640 pCi/L	80%	20%	0%
Basement	2.242 pCi/L	79%	21%	0%

PHYSICAL SETTING SOURCE RECORDS SEARCHED

HYDROLOGIC INFORMATION

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 1999 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002 from the U.S. Fish and Wildlife Service.

HYDROGEOLOGIC INFORMATION

AQUIFLOW[R] Information System
Source: EDR proprietary database of groundwater flow information
EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit
Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database
The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the national Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

ADDITIONAL ENVIRONMENTAL RECORD SOURCES

FEDERAL WATER WELLS

PWS: Public Water Systems
Source: EPA/Office of Drinking Water
Telephone: 202-564-4099
Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data
Source: EPA/Office of Drinking Water
Telephone: 202-564-4099
Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: In November 1971 the United States Geological Survey (USGS) implemented a national water resource information tracking system. This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on more than 900,000 wells, springs, and other sources of groundwater.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

STATE RECORDS

Arizona Well Registration Database
Source: Department of Water Resources
Telephone: 602-771-1586
Contains information provided to ADWR's Operations Division by well drillers and/or owners.

RADON

Area Radon Information
Source: USGS
Telephone: 303-202-4210
The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones
Source: EPA
Telephone: 202-564-9370
Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

OTHER

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

EDR Radius Map with GeoCheck Inquiry
Number 896955.1s

EDR Radius Map with GeoCheck Inquiry
Number 896955.1s

The EDR Radius Map
with GeoCheck®

Carefree Drainage Master Plan
6
Carefree, AZ 85377

Inquiry Number: 896955.1s

December 12, 2002

Environmental Data Resources, Inc.

The Source For Environmental Risk Management Data

3530 Post Road
Southport, Connecticut 06890

Nationwide Customer Service

Telephone: 1-800-352-0050
Fax: 1-800-231-6802
Internet: www.edrnet.com

FORM-ACP

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GEOCHECK ADDENDUM

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Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc. (EDR). The report meets the government records search requirements of ASTM Standard Practice for Environmental Site Assessments, E 1527-00. Search distances are per ASTM standard or custom distances requested by the user.

TARGET PROPERTY INFORMATION

ADDRESS

6
CAREFREE, AZ 85377

COORDINATES

Latitude (North):	38.807800 - 38' 48' 28.1"
Longitude (West):	111.958300 - 111' 57' 29.9"
Universal Tranverse Mercator:	Zone 12
UTM X (Meters):	416792.1
UTM Y (Meters):	4295677.0

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property:	2438111-G8 SIGURD, UT
Source:	USGS 7.5 min quad index

TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the ASTM E 1527-00 search radius around the target property for the following databases:

FEDERAL ASTM STANDARD

NPL..... National Priority List
Proposed NPL..... Proposed National Priority List Sites
CERCLIS..... Comprehensive Environmental Response, Compensation, and Liability Information System
CERC-NFRAP..... CERCLIS No Further Remedial Action Planned
CORRACTS..... Corrective Action Report
RCRIS-TSD..... Resource Conservation and Recovery Information System
RCRIS-LQG..... Resource Conservation and Recovery Information System
RCRIS-SQG..... Resource Conservation and Recovery Information System
ERNS..... Emergency Response Notification System

STATE ASTM STANDARD

SPL..... Superfund Program List
SHWS..... ZipAcids List
SWF/LF..... Directory of Solid Waste Facilities
LUST..... Leaking Underground Storage Tank Listing

EXECUTIVE SUMMARY

UST..... Underground Storage Tank Listing
AZ WQARF..... Water Quality Assurance Revolving Fund Sites

FEDERAL ASTM SUPPLEMENTAL

CONSENT..... Superfund (CERCLA) Consent Decrees
ROD..... Records Of Decision
Delisted NPL..... National Priority List Deletions
FINDS..... Facility Index System/Facility Identification Initiative Program Summary Report
HMIRS..... Hazardous Materials Information Reporting System
MLTS..... Material Licensing Tracking System
MINES..... Mines Master Index File
NPL Liens..... Federal Superfund Liens
PADS..... PCB Activity Database System
RAATS..... RCRA Administrative Action Tracking System
TRIS..... Toxic Chemical Release Inventory System
TSCA..... Toxic Substances Control Act
SSTS..... Section 7 Tracking Systems
FTTS..... FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

STATE OR LOCAL ASTM SUPPLEMENTAL

AST..... List of Aboveground Storage Tanks
AZ Spills..... Hazardous Material Logbook
AZ DOD..... Department of Defense Sites
WWFAC..... Waste Water Treatment Facilities
Aquifer..... Waste Water Treatment Facilities
Dry Wells..... Drywell Registration
AZ AIRS..... Arizona Airs Database

EDR PROPRIETARY HISTORICAL DATABASES

Coal Gas..... Former Manufactured Gas (Coal Gas) Sites

SURROUNDING SITES: SEARCH RESULTS

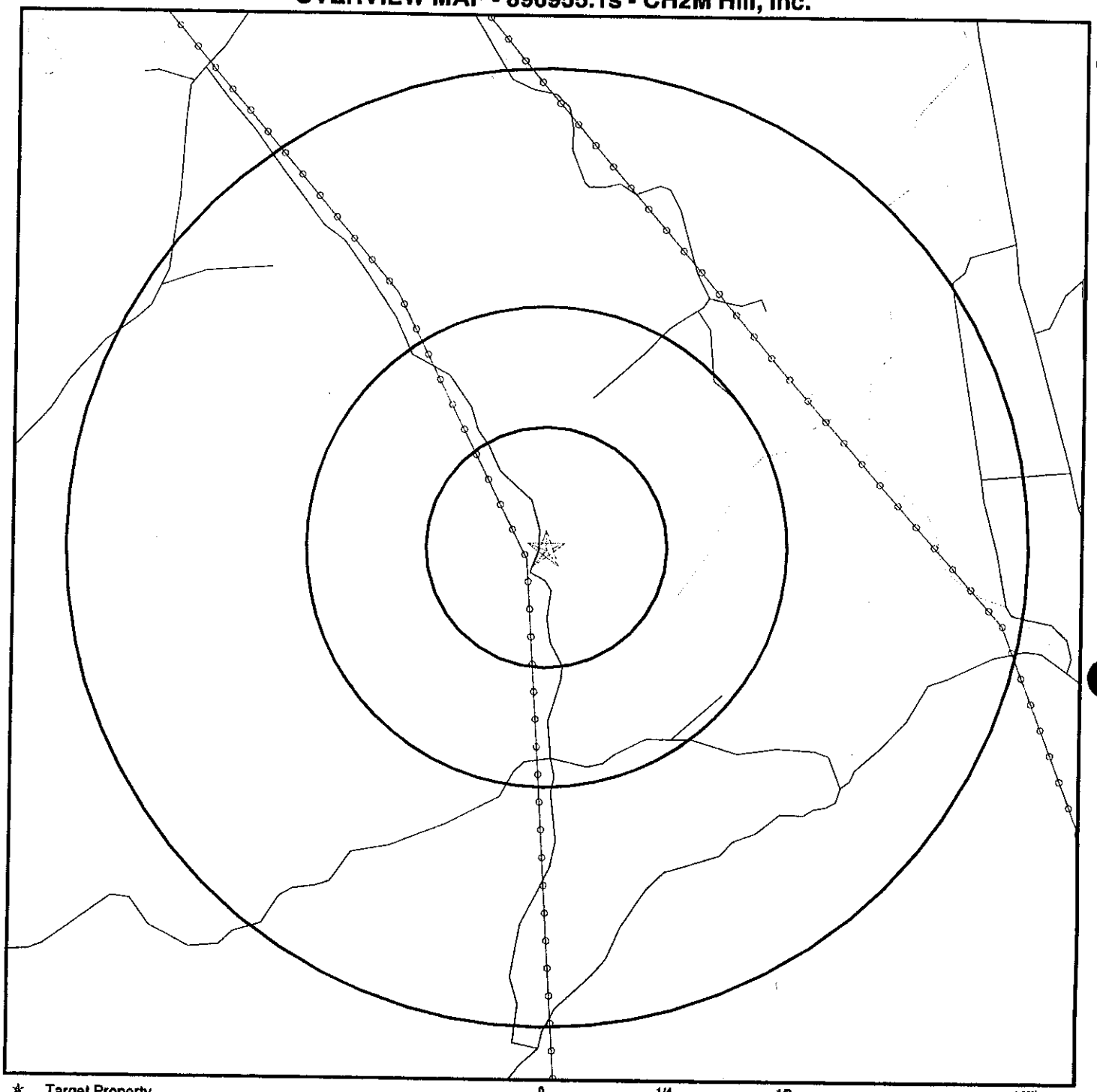
Surrounding sites were not identified.

EXECUTIVE SUMMARY

Due to poor or inadequate address information, the following sites were not mapped:

Site Name	Database(s)
CAREFREE CLEANERS	RCRIS-SQG, FINDS

OVERVIEW MAP - 896955.1s - CH2M Hill, Inc.



★ Target Property

▲ Sites at elevations higher than or equal to the target property

◆ Sites at elevations lower than the target property

Coal Gasification Sites

National Priority List Sites

Landfill Sites

0 1/4 1/2 1 Miles

Power transmission lines

Oil & Gas pipelines

Dept. of Defense Sites

Water Quality Assurance Revolving Fund Areas

TARGET PROPERTY:	Carefree Drainage Master Plan	CUSTOMER:	CH2M Hill, Inc.
ADDRESS:	6	CONTACT:	Monique Chaisson
CITY/STATE/ZIP:	Carefree AZ 85377	INQUIRY #:	896955.1s
LAT/LONG:	38.8078 / 111.9583	DATE:	December 12, 2002 3:37 pm

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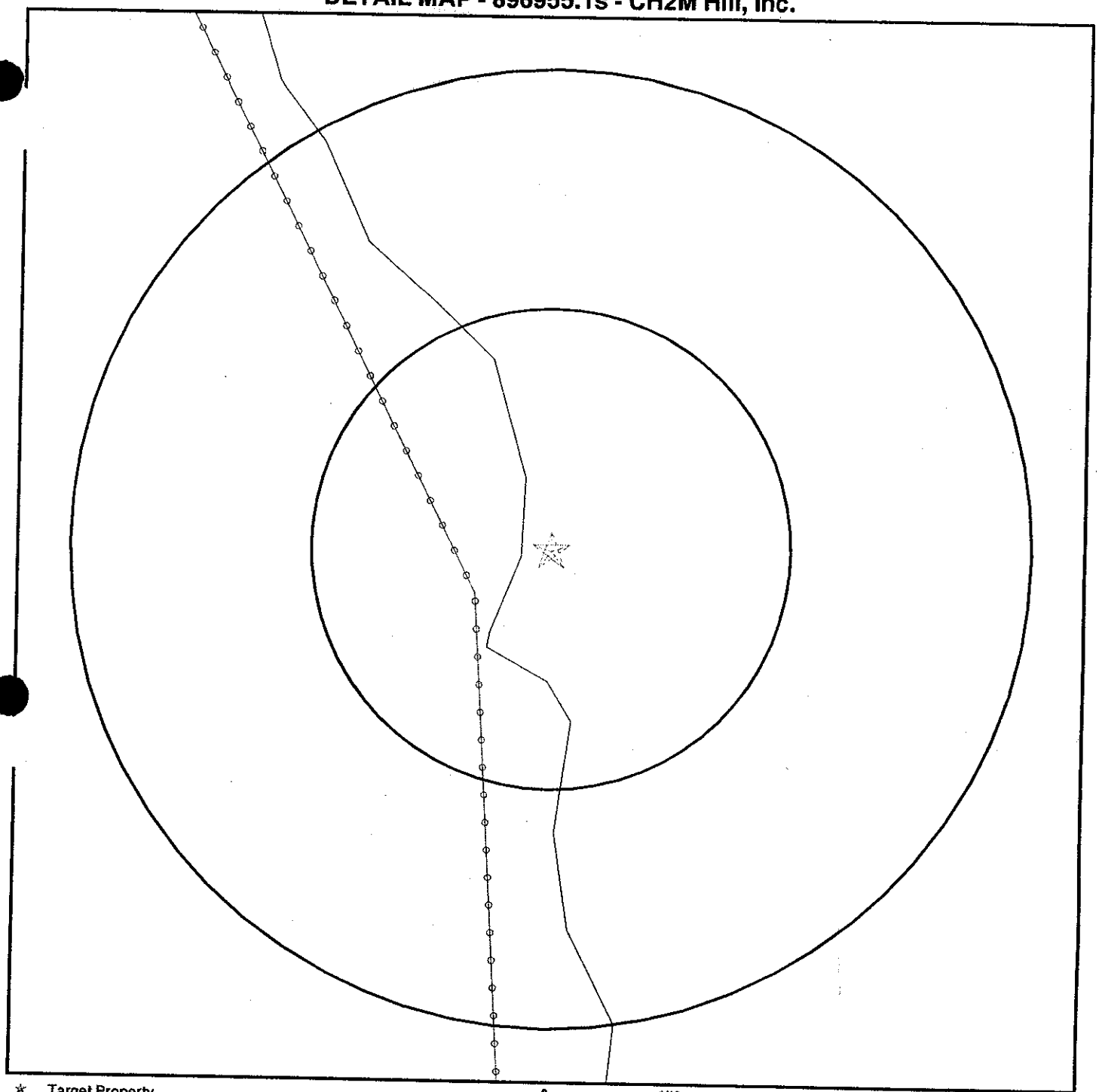
DETAIL MAP - 896955.1s - CH2M Hill, Inc.



☆ Target Property

▲ Sites at elevations higher than or equal to the target property

◆ Sites at elevations lower than the target property

Coal Gasification Sites

Sensitive Receptors

National Priority List Sites

Landfill Sites

0 1/16 1/8 1/4 Miles

Power transmission lines

Oil & Gas pipelines

Dept. of Defense Sites

Water Quality Assurance Revolving Fund Areas

N

TARGET PROPERTY:	Carefree Drainage Master Plan	CUSTOMER:	CH2M Hill, Inc.
ADDRESS:	6	CONTACT:	Monique Chaisson
CITY/STATE/ZIP:	Carefree AZ 85377	INQUIRY #:	896955.1s
LAT/LONG:	38.8078 / 111.9583	DATE:	December 12, 2002 3:37 pm

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MAP FINDINGS SUMMARY

Database	Target Property	Search Distance (Miles)	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
FEDERAL ASTM STANDARD								
NPL		1.000	0	0	0	0	NR	0
Proposed NPL		1.000	0	0	0	0	NR	0
CERCLIS		0.500	0	0	0	NR	NR	0
CERC-NFRAP		0.250	0	0	NR	NR	NR	0
CORRACTS		1.000	0	0	0	0	NR	0
RCRIS-TSD		0.500	0	0	0	NR	NR	0
RCRIS Lg. Quan. Gen.		0.250	0	0	NR	NR	NR	0
RCRIS Sm. Quan. Gen.		0.250	0	0	NR	NR	NR	0
ERNS		TP	NR	NR	NR	NR	NR	0
STATE ASTM STANDARD								
SPL		1.000	0	0	0	0	NR	0
State Haz. Waste		1.000	0	0	0	0	NR	0
State Landfill		0.500	0	0	0	NR	NR	0
LUST		0.500	0	0	0	NR	NR	0
UST		0.250	0	0	NR	NR	NR	0
AZ WQARF		1.000	0	0	0	0	NR	0
FEDERAL ASTM SUPPLEMENTAL								
CONSENT		1.000	0	0	0	0	NR	0
ROD		1.000	0	0	0	0	NR	0
Delisted NPL		1.000	0	0	0	0	NR	0
FINDS		TP	NR	NR	NR	NR	NR	0
HMIRS		TP	NR	NR	NR	NR	NR	0
MLTS		TP	NR	NR	NR	NR	NR	0
MINES		0.250	0	0	NR	NR	NR	0
NPL Liens		TP	NR	NR	NR	NR	NR	0
PADS		TP	NR	NR	NR	NR	NR	0
RAATS		TP	NR	NR	NR	NR	NR	0
TRIS		TP	NR	NR	NR	NR	NR	0
TSCA		TP	NR	NR	NR	NR	NR	0
SSTS		TP	NR	NR	NR	NR	NR	0
FTTS		TP	NR	NR	NR	NR	NR	0
STATE OR LOCAL ASTM SUPPLEMENTAL								
AST		TP	NR	NR	NR	NR	NR	0
AZ Spills		TP	NR	NR	NR	NR	NR	0
AZ DOD		0.500	0	0	0	NR	NR	0
WWFAC		0.500	0	0	0	NR	NR	0
Aquifer		TP	NR	NR	NR	NR	NR	0
Dry Wells		TP	NR	NR	NR	NR	NR	0
AZ AIRS		TP	NR	NR	NR	NR	NR	0
EDR PROPRIETARY HISTORICAL DATABASES								
Coal Gas		1.000	0	0	0	0	NR	0

MAP FINDINGS SUMMARY

Database	Target Property	Search Distance (Miles)	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted

AQUIFLOW - see EDR Physical Setting Source Addendum

TP = Target Property

NR = Not Requested at this Search Distance

* Sites may be listed in more than one database

Map ID Direction Distance Distance (ft.) Elevation	Site	Database(s)	EDR ID Number EPA ID Number

Coal Gas Site Search: No site was found in a search of Real Property Scan's ENVIROHAZ database.

NO SITES FOUND

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
CAREFREE	1000202304	CAREFREE CLEANERS	36889 N TOM DARLINGTON DR	85377	RCRIS-SQG, FINDS

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Elapsed ASTM days: Provides confirmation that this EDR report meets or exceeds the 90-day updating requirement of the ASTM standard.

FEDERAL ASTM STANDARD RECORDS

NPL: National Priority List
Source: EPA
Telephone: N/A
National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 10/24/02
Date Made Active at EDR: 12/09/02
Database Release Frequency: Semi-Annually

Date of Data Arrival at EDR: 11/04/02
Elapsed ASTM days: 35
Date of Last EDR Contact: 11/04/02

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 3
Telephone 215-814-5418

EPA Region 4
Telephone 404-562-8033

EPA Region 6
Telephone: 214-655-6659

EPA Region 8
Telephone: 303-312-6774

Proposed NPL: Proposed National Priority List Sites
Source: EPA
Telephone: N/A

Date of Government Version: 10/24/02
Date Made Active at EDR: 12/09/02
Database Release Frequency: Semi-Annually

Date of Data Arrival at EDR: 11/04/02
Elapsed ASTM days: 35
Date of Last EDR Contact: 11/04/02

CERCLIS: Comprehensive Environmental Response, Compensation, and Liability Information System
Source: EPA
Telephone: 703-413-0223
CERCLIS contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). CERCLIS contains sites which are either proposed to or on the National Priorities List (NPL) and sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 08/15/02
Date Made Active at EDR: 10/28/02
Database Release Frequency: Quarterly

Date of Data Arrival at EDR: 09/23/02
Elapsed ASTM days: 35
Date of Last EDR Contact: 09/23/02

CERCLIS-NFRAP: CERCLIS No Further Remedial Action Planned
Source: EPA
Telephone: 703-413-0223
As of February 1995, CERCLIS sites designated "No Further Remedial Action Planned" (NFRAP) have been removed from CERCLIS. NFRAP sites may be sites where, following an initial investigation, no contamination was found, contamination was removed quickly without the need for the site to be placed on the NPL, or the contamination was not serious enough to require Federal Superfund action or NPL consideration. EPA has removed approximately 25,000 NFRAP sites to lift the unintended barriers to the redevelopment of these properties and has archived them as historical records so EPA does not needlessly repeat the investigations in the future. This policy change is part of the EPA's Brownfields Redevelopment Program to help cities, states, private investors and affected citizens to promote economic redevelopment of unproductive urban sites.

Date of Government Version: 09/15/02
Date Made Active at EDR: 10/28/02
Database Release Frequency: Quarterly

Date of Data Arrival at EDR: 10/03/02
Elapsed ASTM days: 25
Date of Last EDR Contact: 09/23/02

CORRACTS: Corrective Action Report
Source: EPA
Telephone: 800-424-9346
CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 05/02/02
Date Made Active at EDR: 07/15/02
Database Release Frequency: Semi-Annually

Date of Data Arrival at EDR: 05/06/02
Elapsed ASTM days: 70
Date of Last EDR Contact: 09/09/02

RCRIS: Resource Conservation and Recovery Information System
Source: EPA/NTIS
Telephone: 800-424-9346
Resource Conservation and Recovery Information System. RCRIS includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA).

Date of Government Version: 09/09/02
Date Made Active at EDR: 10/28/02
Database Release Frequency: Varies

Date of Data Arrival at EDR: 09/24/02
Elapsed ASTM days: 34
Date of Last EDR Contact: 09/24/02

ERNS: Emergency Response Notification System
Source: EPA/NTIS
Telephone: 202-260-2342
Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 12/31/01
Date Made Active at EDR: 07/15/02
Database Release Frequency: Varies

Date of Data Arrival at EDR: 07/02/02
Elapsed ASTM days: 13
Date of Last EDR Contact: 10/28/02

FEDERAL ASTM SUPPLEMENTAL RECORDS

BRS: Biennial Reporting System
Source: EPA/NTIS
Telephone: 800-424-9346
The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/99
Database Release Frequency: Biennially

Date of Last EDR Contact: 09/16/02
Date of Next Scheduled EDR Contact: 12/16/02

CONSENT: Superfund (CERCLA) Consent Decrees
Source: EPA Regional Offices
Telephone: Varies
Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: N/A
Database Release Frequency: Varies

Date of Last EDR Contact: N/A
Date of Next Scheduled EDR Contact: N/A

ROD: Records Of Decision
Source: EPA
Telephone: 703-416-0223
Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 12/21/01
Database Release Frequency: Annually

Date of Last EDR Contact: 10/07/02
Date of Next Scheduled EDR Contact: 01/06/03

DELISTED NPL: National Priority List Deletions
Source: EPA
Telephone: N/A
The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 10/18/02
Database Release Frequency: Quarterly

Date of Last EDR Contact: 11/04/02
Date of Next Scheduled EDR Contact: 02/03/03

FINDS: Facility Index System/Facility Identification Initiative Program Summary Report
Source: EPA
Telephone: N/A
Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 10/10/02
Database Release Frequency: Quarterly

Date of Last EDR Contact: 10/07/02
Date of Next Scheduled EDR Contact: 01/06/03

HMIRS: Hazardous Materials Information Reporting System
Source: U.S. Department of Transportation
Telephone: 202-366-4555
Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 07/31/02
Database Release Frequency: Annually

Date of Last EDR Contact: 10/21/02
Date of Next Scheduled EDR Contact: 01/20/03

MLTS: Material Licensing Tracking System
Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 10/21/02
Database Release Frequency: Quarterly

Date of Last EDR Contact: 10/08/02
Date of Next Scheduled EDR Contact: 01/06/03

MINES: Mines Master Index File
Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959

Date of Government Version: 09/10/02
Database Release Frequency: Semi-Annually

Date of Last EDR Contact: 09/30/02
Date of Next Scheduled EDR Contact: 12/30/02

NPL LIENS: Federal Superfund Liens
Source: EPA
Telephone: 205-564-4267
Federal Superfund Liens. Under the authority granted the USEPA by the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner receives notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/91
Database Release Frequency: No Update Planned
Date of Last EDR Contact: 11/25/02
Date of Next Scheduled EDR Contact: 02/24/03

PADS: PCB Activity Database System
Source: EPA
Telephone: 202-564-3887
PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 06/28/02
Database Release Frequency: Annually
Date of Last EDR Contact: 11/13/02
Date of Next Scheduled EDR Contact: 02/10/03

RAATS: RCRA Administrative Action Tracking System
Source: EPA
Telephone: 202-564-4104
RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/95
Database Release Frequency: No Update Planned
Date of Last EDR Contact: 09/10/02
Date of Next Scheduled EDR Contact: 12/09/02

TRIS: Toxic Chemical Release Inventory System
Source: EPA
Telephone: 202-260-1531
Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/00
Database Release Frequency: Annually
Date of Last EDR Contact: 09/24/02
Date of Next Scheduled EDR Contact: 12/23/02

TSCA: Toxic Substances Control Act
Source: EPA
Telephone: 202-260-5521
Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/98
Database Release Frequency: Every 4 Years
Date of Last EDR Contact: 09/09/02
Date of Next Scheduled EDR Contact: 12/09/02

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
Source: EPA
Telephone: 202-564-2501

Date of Government Version: 04/25/02
Database Release Frequency: Quarterly
Date of Last EDR Contact: 09/24/02
Date of Next Scheduled EDR Contact: 12/23/02

SSTS: Section 7 Tracking Systems
Source: EPA
Telephone: 202-564-5008
Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 12/31/00
Database Release Frequency: Annually
Date of Last EDR Contact: 10/22/02
Date of Next Scheduled EDR Contact: 01/20/03

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-564-2501
FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/25/02
Database Release Frequency: Quarterly
Date of Last EDR Contact: 09/24/02
Date of Next Scheduled EDR Contact: 12/23/02

STATE OF ARIZONA ASTM STANDARD RECORDS

SPL: *Superfund Program List*
Source: Dept. of Environmental Quality
Telephone: 602-771-4360
The list is representative of the sites and potential sites within the jurisdiction of the Superfund Program Section. It is comprised of the following elements: 1) Water Quality Assurance Revolving Fund Registry Sites; 2) Potential WQARF Registry sites; 3) NPL sites; and 4) Department of Defense sites requiring SPS oversight.

Date of Government Version: 07/15/02
Date Made Active at EDR: 10/04/02
Database Release Frequency: Semi-Annually
Date of Data Arrival at EDR: 09/03/02
Elapsed ASTM days: 31
Date of Last EDR Contact: 12/02/02

SHWS: ZipAcids List
Source: Department of Environmental Quality
Telephone: 602-771-4360
The ACIDS list consists of more than 750 locations subject to investigation under the State Water Quality Assurance Revolving Fund (WQARF) and Federal CERCLA programs. The list is no longer updated by the state.

Date of Government Version: 01/03/00
Date Made Active at EDR: 05/16/00
Database Release Frequency: No Update Planned
Date of Data Arrival at EDR: 04/11/00
Elapsed ASTM days: 35
Date of Last EDR Contact: 10/21/02

SWF/LF: Directory of Solid Waste Facilities
Source: Department of Environmental Quality
Telephone: 602-771-4132
Solid Waste Facilities/Landfill Sites. SWF/LF type records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. Depending on the state, these may be active or inactive facilities or open dumps that failed to meet RCRA Subtitle D Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 11/01/00
Date Made Active at EDR: 02/01/01
Database Release Frequency: Annually
Date of Data Arrival at EDR: 01/02/01
Elapsed ASTM days: 30
Date of Last EDR Contact: 11/15/02

LUST: Leaking Underground Storage Tank Listing
Source: Department of Environmental Quality
Telephone: 602-771-4345
Leaking Underground Storage Tank Incident Reports. LUST records contain an inventory of reported leaking underground storage tank incidents. Not all states maintain these records, and the information stored varies by state.

Date of Government Version: 10/30/02
Date Made Active at EDR: 11/25/02
Database Release Frequency: Semi-Annually
Date of Data Arrival at EDR: 11/12/02
Elapsed ASTM days: 13
Date of Last EDR Contact: 11/12/02

UST: Underground Storage Tank Listing
Source: Department of Environmental Quality
Telephone: 602-771-4345
Registered Underground Storage Tanks. UST's are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA) and must be registered with the state department responsible for administering the UST program. Available information varies by state program.

Date of Government Version: 02/06/02
Date Made Active at EDR: 04/01/02
Database Release Frequency: Annually

Date of Data Arrival at EDR: 03/11/02
Elapsed ASTM days: 21
Date of Last EDR Contact: 11/12/02

WQARF: Water Quality Assurance Revolving Fund Sites
Source: Department of Environmental Quality
Telephone: 602-771-4360
Sites which may have an actual or potential impact upon the waters of the state, cause by hazardous substances. The WQARF program provides matching funds to political subdivisions and other state agencies for clean-up activities.

Date of Government Version: 03/08/02
Date Made Active at EDR: 04/30/02
Database Release Frequency: Annually

Date of Data Arrival at EDR: 03/25/02
Elapsed ASTM days: 36
Date of Last EDR Contact: 09/25/02

STATE OF ARIZONA ASTM SUPPLEMENTAL RECORDS

AST: List of Aboveground Storage Tanks
Source: Dept. of Building & Fire Safety
Telephone: 602-364-1003
Aboveground storage tanks that the Dept. of Building & Fire Safety have permitted.

Date of Government Version: 12/31/00
Database Release Frequency: Annually

Date of Last EDR Contact: 10/25/02
Date of Next Scheduled EDR Contact: 01/13/03

SPILLS: Hazardous Material Logbook
Source: Department of Environmental Quality
Telephone: 602-771-4153
ADEQ Emergency Response Unit. The ADEQ Emergency Response Unit documents chemical spills and incidents which are referred to the Unit. The logbook information for 1984-1986 consists of handwritten entries of the date, incident number and name of facility if known. Current logbooks are computerized and can be sorted by date, incident number, name, city (zip codes are not included), county, chemical and quantity.

Date of Government Version: 06/30/00
Database Release Frequency: Semi-Annually

Date of Last EDR Contact: 09/30/00
Date of Next Scheduled EDR Contact: 12/30/02

DOD: Department of Defense Sites
Source: Department of Environmental Quality
Telephone: 602-771-4360
These sites are federal facilities that are either being assessed for potential contamination, or have active remediation taking place on them.

Date of Government Version: 03/08/02
Database Release Frequency: Annually

Date of Last EDR Contact: 09/25/02
Date of Next Scheduled EDR Contact: 12/23/02

WWFAC: Waste Water Treatment Facilities
Source: Department of Environmental Quality
Telephone: 602-771-4623
Statewide list of waste water treatment facilities.

Date of Government Version: 12/12/00
Database Release Frequency: Varies

Date of Last EDR Contact: 11/25/02
Date of Next Scheduled EDR Contact: 02/24/03

AQUIFER: Waste Water Treatment Facilities
Source: Department of Environmental Quality
Telephone: 602-771-4623
Waste Water Treatment Facilities with APP (Aquifer Protection Permits.)

Date of Government Version: 11/01/01
Database Release Frequency: Semi-Annually

Date of Last EDR Contact: 10/28/02
Date of Next Scheduled EDR Contact: 01/27/03

DRY WELLS: Drywell Registration
Source: Department of Environmental Quality
Telephone: 602-771-4686
A drywell is a bored, drilled, or driven shaft or hole whose depth is greater than its width and is designed and constructed specifically for the disposal of storm water.

Date of Government Version: 09/01/02
Database Release Frequency: Semi-Annually

Date of Last EDR Contact: 09/23/02
Date of Next Scheduled EDR Contact: 12/23/02

AZ AIRS: Arizona Airs Database
Source: Department of Environmental Quality
Telephone: 602-771-2344
Arizona major (has the potential to emit over 100 tons of criteria pollutant) and minor (below 100 tons) sources.

Date of Government Version: 05/31/02
Database Release Frequency: Semi-Annually

Date of Last EDR Contact: 11/04/02
Date of Next Scheduled EDR Contact: 02/03/03

EDR PROPRIETARY HISTORICAL DATABASES

Former Manufactured Gas (Coal Gas) Sites: The existence and location of Coal Gas sites is provided exclusively to EDR by Real Property Scan, Inc. ©Copyright 1993 Real Property Scan, Inc. For a technical description of the types of hazards which may be found at such sites, contact your EDR customer service representative.

Disclaimer Provided by Real Property Scan, Inc.

The information contained in this report has predominantly been obtained from publicly available sources produced by entities other than Real Property Scan. While reasonable steps have been taken to insure the accuracy of this report, Real Property Scan does not guarantee the accuracy of this report. Any liability on the part of Real Property Scan is strictly limited to a refund of the amount paid. No claim is made for the actual existence of toxins at any site. This report does not constitute a legal opinion.

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

Oil/Gas Pipelines/Electrical Transmission Lines: This data was obtained by EDR from the USGS in 1994. It is referred to by USGS as GeoData Digital Line Graphs from 1:100,000-Scale Maps. It was extracted from the transportation category including some oil, but primarily gas pipelines and electrical transmission lines.

Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 1999 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002 from the U.S. Fish and Wildlife Service.

STREET AND ADDRESS INFORMATION

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GEOCHECK®- PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

CAREFREE DRAINAGE MASTER PLAN
6
CAREFREE, AZ 85377

TARGET PROPERTY COORDINATES

Latitude (North):	38.807800 - 38' 48' 28.1"
Longitude (West):	111.958298 - 111' 57' 29.9"
Universal Tranverse Mercator:	Zone 12
UTM X (Meters):	416792.1
UTM Y (Meters):	4295677.0

EDR's GeoCheck Physical Setting Source Addendum has been developed to assist the environmental professional with the collection of physical setting source information in accordance with ASTM 1527-00, Section 7.2.3. Section 7.2.3 requires that a current USGS 7.5 Minute Topographic Map (or equivalent, such as the USGS Digital Elevation Model) be reviewed. It also requires that one or more additional physical setting sources be sought when (1) conditions have been identified in which hazardous substances or petroleum products are likely to migrate to or from the property, and (2) more information than is provided in the current USGS 7.5 Minute Topographic Map (or equivalent) is generally obtained, pursuant to local good commercial or customary practice, to assess the impact of migration of recognized environmental conditions in connection with the property. Such additional physical setting sources generally include information about the topographic, hydrologic, hydrogeologic, and geologic characteristics of a site, and wells in the area.

Assessment of the impact of contaminant migration generally has two principle investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata. EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

TOPOGRAPHIC INFORMATION

Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

USGS TOPOGRAPHIC MAP ASSOCIATED WITH THIS SITE

Target Property: 2438111-G8 SIGURD, UT
Source: USGS 7.5 min quad index

GENERAL TOPOGRAPHIC GRADIENT AT TARGET PROPERTY

Target Property: General East

Source: General Topographic Gradient has been determined from the USGS 1 Degree Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

Target Property County	FEMA Flood Electronic Data
SEVIER, UT	Not Available

Flood Plain Panel at Target Property: Not Reported

Additional Panels in search area: Not Reported

NATIONAL WETLAND INVENTORY

NWI Quad at Target Property	NWI Electronic Data Coverage
NOT AVAILABLE	Not Available

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Site-Specific Hydrogeological Data*:

Search Radius:	2.0 miles
Status:	Not found

AQUIFLOW®

Search Radius: 2.000 Miles.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

MAP ID	LOCATION FROM TP	GENERAL DIRECTION GROUNDWATER FLOW
Not Reported		

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

Era:	Mesozoic
System:	Jurassic
Series:	Jurassic
Code:	J *(decoded above as Era, System & Series)*

GEOLOGIC AGE IDENTIFICATION

Category: Stratified Sequence

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps. The following information is based on Soil Conservation Service STATSGO data.

* ©1996 Site-specific hydrogeological data gathered by CERCLIS Alerts, Inc., Bainbridge Island, WA. All rights reserved. All of the information and opinions presented are those of the cited EPA report(s), which were completed under a Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS) investigation.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Component Name: TATIYEE

Soil Surface Texture: gravelly - loam

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class: Well drained. Soils have intermediate water holding capacity. Depth to water table is more than 6 feet.

Hydric Status: Soil does not meet the requirements for a hydric soil.

Corrosion Potential - Uncoated Steel: MODERATE

Depth to Bedrock Min: > 60 inches

Depth to Bedrock Max: > 60 inches

Soil Layer Information

	Boundary			Classification			
Layer	**Upper**	**Lower**	**Soil Texture Class**	**AASHTO Group**	**Unified Soil**	**Permeability Rate (in/hr)**	**Soil Reaction (pH)**
1	0 inches	12 inches	gravelly - loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COURSE-GRAINED SOILS, Sands, Sands with fines, Clayey sand. COURSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 2.00 Min: 0.60	Max: 6.50 Min: 5.60
2	12 inches	30 inches	very gravelly - clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	COURSE-GRAINED SOILS, Gravels, Gravels with fines, Clayey Gravel	Max: 0.20 Min: 0.06	Max: 7.30 Min: 6.60
3	30 inches	60 inches	very gravelly - clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	COURSE-GRAINED SOILS, Gravels, Gravels with fines, Clayey Gravel	Max: 0.60 Min: 0.20	Max: 7.30 Min: 6.60

OTHER SOIL TYPES IN AREA

Based on Soil Conservation Service STATSGO data, the following additional subordinant soil types may appear within the general area of target property.

Soil Surface Textures: very stony - loam
silt loam

Surficial Soil Types: very stony - loam
silt loam

Shallow Soil Types: gravelly - clay loam

very gravelly - clay loam
silt loam

Deeper Soil Types: unweathered bedrock
weathered bedrock
silt loam

ADDITIONAL ENVIRONMENTAL RECORD SOURCES

According to ASTM E 1527-00, Section 7.2.2, "one or more additional state or local sources of environmental records may be checked, in the discretion of the environmental professional, to enhance and supplement federal and state sources... Factors to consider in determining which local or additional state records, if any, should be checked include (1) whether they are reasonably ascertainable, (2) whether they are sufficiently useful, accurate, and complete in light of the objective of the records review (see 7.1.1), and (3) whether they are obtained, pursuant to local, good commercial or customary practice." One of the record sources listed in Section 7.2.2 is water well information. Water well information can be used to assist the environmental professional in assessing sources that may impact groundwater flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

WELL SEARCH DISTANCE INFORMATION

DATABASE	SEARCH DISTANCE (miles)
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 1 mile
State Database	1.000

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No Wells Found		

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

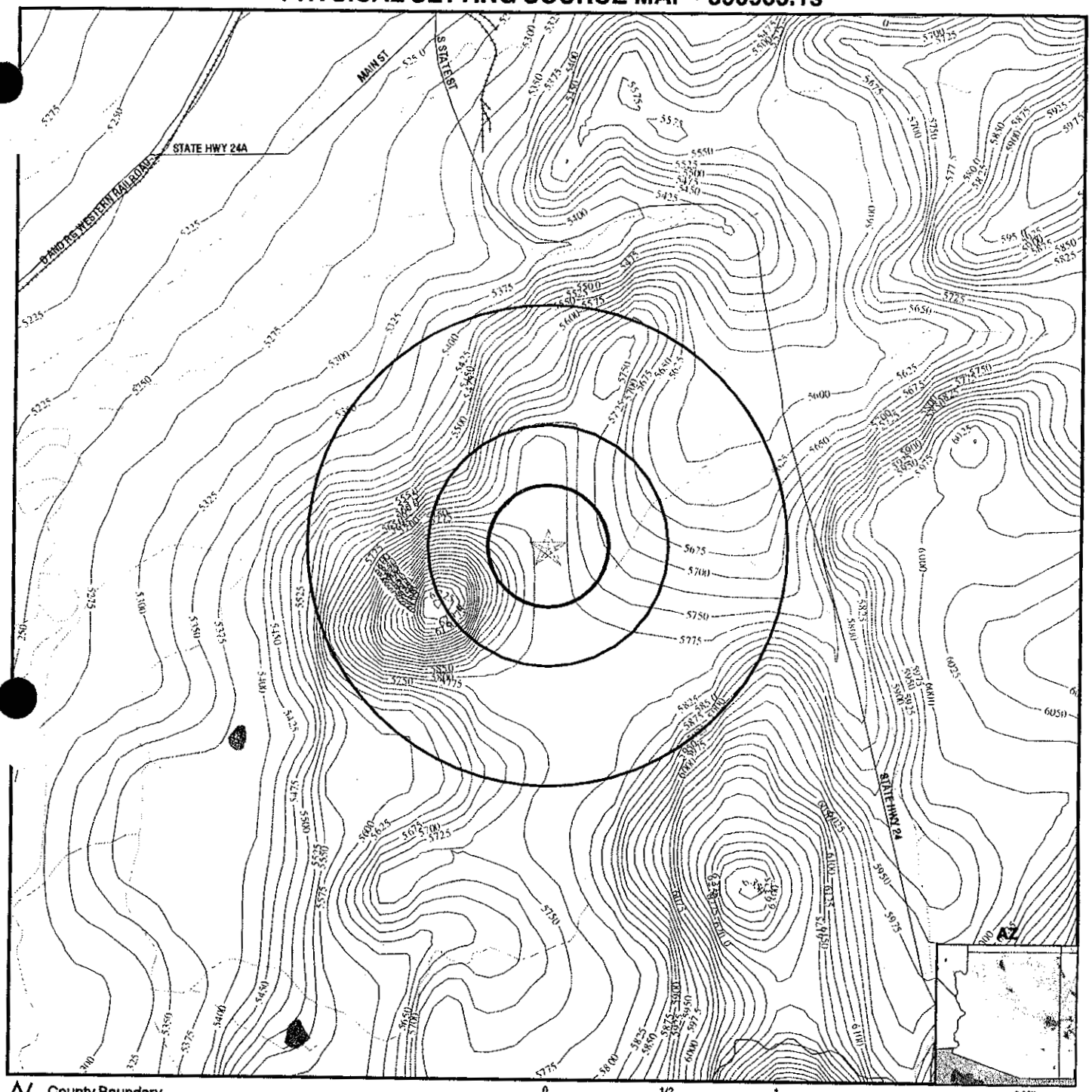
MAP ID	WELL ID	LOCATION FROM TP
No PWS System Found		

Note: PWS System location is not always the same as well location.

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No Wells Found		

PHYSICAL SETTING SOURCE MAP - 896955.1s



0 1/2 1 2 Miles

County Boundary
Major Roads
Contour Lines
Water Wells
Public Water Supply Wells
Groundwater Flow Direction
Indeterminate Groundwater Flow at Location
Groundwater Flow Varies at Location
Cluster of Multiple Icons

Earthquake epicenter, Richter 5 or greater
Closest Hydrogeological Data

TARGET PROPERTY:	Carefree Drainage Master Plan	CUSTOMER:	CH2M Hill, Inc.
ADDRESS:	6	CONTACT:	Monique Chaisson
CITY/STATE/ZIP:	Carefree AZ 85377	INQUIRY #:	896955.1s
LAT/LONG:	38.8078 / 111.9583	DATE:	December 12, 2002 3:37 pm

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GEOCHECK®- PHYSICAL SETTING SOURCE MAP FINDINGS
RADON

AREA RADON INFORMATION

Not Reported

PHYSICAL SETTING SOURCE RECORDS SEARCHED

HYDROLOGIC INFORMATION

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 1999 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002 from the U.S. Fish and Wildlife Service.

HYDROGEOLOGIC INFORMATION

AQUIFLOW[R] Information System
Source: EDR proprietary database of groundwater flow information
EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit
Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database
The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the national Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

ADDITIONAL ENVIRONMENTAL RECORD SOURCES

FEDERAL WATER WELLS

PWS: Public Water Systems
Source: EPA/Office of Drinking Water
Telephone: 202-260-2805
Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data
Source: EPA/Office of Drinking Water
Telephone: 202-260-2805
Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: In November 1971 the United States Geological Survey (USGS) implemented a national water resource information tracking system. This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on more than 900,000 wells, springs, and other sources of groundwater.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

STATE RECORDS

Arizona Well Registration Database
Source: Department of Water Resources
Telephone: 602-771-1586
Contains information provided to ADWR's Operations Division by well drillers and/or owners.

RADON

Area Radon Information
Source: USGS
Telephone: 303-202-4210
The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones
Source: EPA
Telephone: 202-564-9370
Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

OTHER

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

EDR Radius Map with GeoCheck Inquiry Number 896955.2s

The EDR Radius Map
with GeoCheck®

Carefree Drainage Master Plan
190/Jef 53
Carefree, AZ 85377

Inquiry Number: 896955.2s

December 12, 2002

Environmental Data Resources, Inc.

The Source For Environmental Risk Management Data

3530 Post Road
Southport, Connecticut 06890

Nationwide Customer Service

Telephone: 1-800-352-0050
Fax: 1-800-231-6802
Internet: www.edrnet.com

FORM-ACP

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GEOCHECK ADDENDUM

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Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc. (EDR). The report meets the government records search requirements of ASTM Standard Practice for Environmental Site Assessments, E 1527-00. Search distances are per ASTM standard or custom distances requested by the user.

TARGET PROPERTY INFORMATION

ADDRESS

190/JEF 53
CAREFREE, AZ 85377

COORDINATES

Latitude (North):	33.832000 - 33' 49' 55.2"
Longitude (West):	111.911300 - 111' 54' 40.7"
Universal Tranverse Mercator:	Zone 12
UTM X (Meters):	415674.8
UTM Y (Meters):	3743708.2

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property:	2433111-G8 CAVE CREEK, AZ
Source:	USGS 7.5 min quad index

TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the ASTM E 1527-00 search radius around the target property for the following databases:

FEDERAL ASTM STANDARD

NPL..... National Priority List
Proposed NPL..... Proposed National Priority List Sites
CERCLIS..... Comprehensive Environmental Response, Compensation, and Liability Information System
CERC-NFRAP..... CERCLIS No Further Remedial Action Planned
CORRACTS..... Corrective Action Report
RCRIS-TSD..... Resource Conservation and Recovery Information System
RCRIS-LQG..... Resource Conservation and Recovery Information System
RCRIS-SQG..... Resource Conservation and Recovery Information System
ERNS..... Emergency Response Notification System

STATE ASTM STANDARD

SPL..... Superfund Program List
SHWS..... ZipAcids List
SWF/LF..... Directory of Solid Waste Facilities
LUST..... Leaking Underground Storage Tank Listing

EXECUTIVE SUMMARY

UST..... Underground Storage Tank Listing
AZ WQARF..... Water Quality Assurance Revolving Fund Sites

FEDERAL ASTM SUPPLEMENTAL

CONSENT..... Superfund (CERCLA) Consent Decrees
ROD..... Records Of Decision
Delisted NPL..... National Priority List Deletions
FINDS..... Facility Index System/Facility Identification Initiative Program Summary Report
HMIRS..... Hazardous Materials Information Reporting System
MLTS..... Material Licensing Tracking System
MINES..... Mines Master Index File
NPL Liens..... Federal Superfund Liens
PADS..... PCB Activity Database System
RAATS..... RCRA Administrative Action Tracking System
TRIS..... Toxic Chemical Release Inventory System
TSCA..... Toxic Substances Control Act
SSTS..... Section 7 Tracking Systems
FTTS..... FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

STATE OR LOCAL ASTM SUPPLEMENTAL

AST..... List of Aboveground Storage Tanks
AZ Spills..... Hazardous Material Logbook
AZ DOD..... Department of Defense Sites
WWFAC..... Waste Water Treatment Facilities
Aquifer..... Waste Water Treatment Facilities
Dry Wells..... Drywell Registration
AZ AIRS..... Arizona Airs Database

EDR PROPRIETARY HISTORICAL DATABASES

Coal Gas..... Former Manufactured Gas (Coal Gas) Sites

SURROUNDING SITES: SEARCH RESULTS

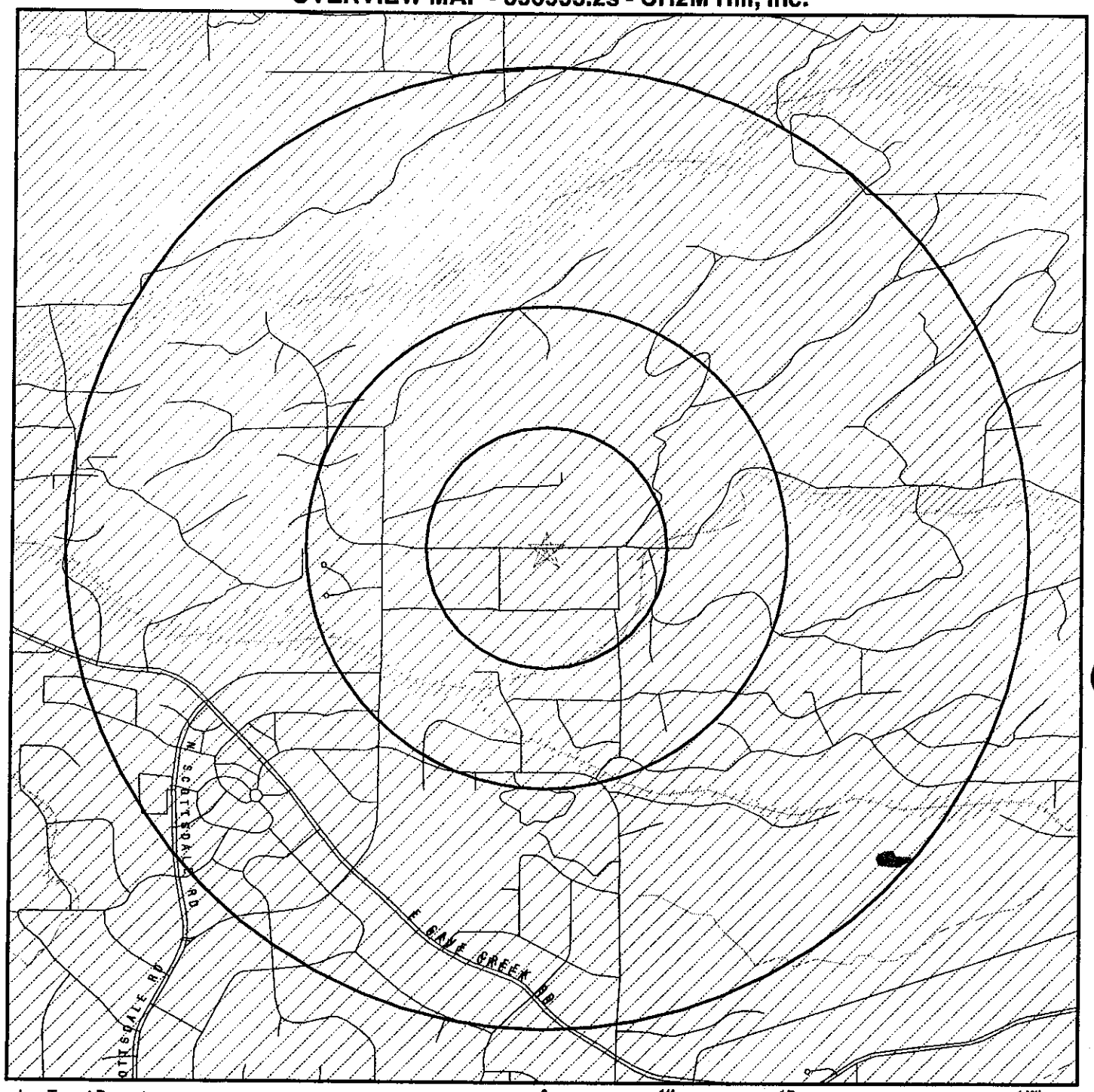
Surrounding sites were not identified.

EXECUTIVE SUMMARY

Due to poor or inadequate address information, the following sites were not mapped:

Site Name	Database(s)
WQ-GILA RIVER DDT	SHWS
CAVE CREEK LDFL	CERC-NFRAP
DEER VALLEY	SWF/LF
CITY OF PHOENIX 22ND AVE.	SWF/LF
ARIZONA SAND & ROCK	SWF/LF
MARTORI FARMS	SWF/LF
QUEEN CREEK	SWF/LF, WWFAC
BEARDSLEY	SWF/LF
DEL RIO	SWF/LF, WWFAC
RESOURCE PROCESSING INC.	SWF/LF
LAYLOR MATERIALS	SWF/LF
UFI	SWF/LF
VAL VISTA	SWF/LF
WILLIAMS AIR FORCE BASE	SWF/LF
DEER VALLEY	SWF/LF
CITY OF MESA	SWF/LF
OLD TOWN DUMP	SWF/LF
GENERAL MOTORS PROVING GROUNDS	SWF/LF
CITY OF CHANDLER	SWF/LF
CHANDLER INT. #1 INTERIM	SWF/LF
CITY OF PHOENIX 91ST AVE.	SWF/LF
27TH AVENUE	SWF/LF
DEER VALLEY LANDFILL	SWF/LF
LONE CACTUS LANDFILL	SWF/LF
PERRYVILLE	SWF/LF
BLACK MOUNTAIN SHADOWS	WWFAC
CAVE CREEK, TOWN OF WWTP	Aquifer, WWFAC
CAREFREE CLEANERS	RCRIS-SQG, FINDS

OVERVIEW MAP - 896955.2s - CH2M Hill, Inc.



- ★ Target Property
- ▲ Sites at elevations higher than or equal to the target property
- ◆ Sites at elevations lower than the target property
- ♟ Coal Gasification Sites
- National Priority List Sites
- Landfill Sites
- Power transmission lines
- Oil & Gas pipelines
- 100-year flood zone
- 500-year flood zone
- Dept. of Defense Sites
- Water Quality Assurance Revolving Fund Areas

TARGET PROPERTY:	Carefree Drainage Master Plan	CUSTOMER:	CH2M Hill, Inc.
ADDRESS:	190/Jef 53	CONTACT:	Monique Chaisson
CITY/STATE/ZIP:	Carefree AZ 85377	INQUIRY #:	896955.2s
LAT/LONG:	33.8320 / 111.9113	DATE:	December 12, 2002 3:42 pm

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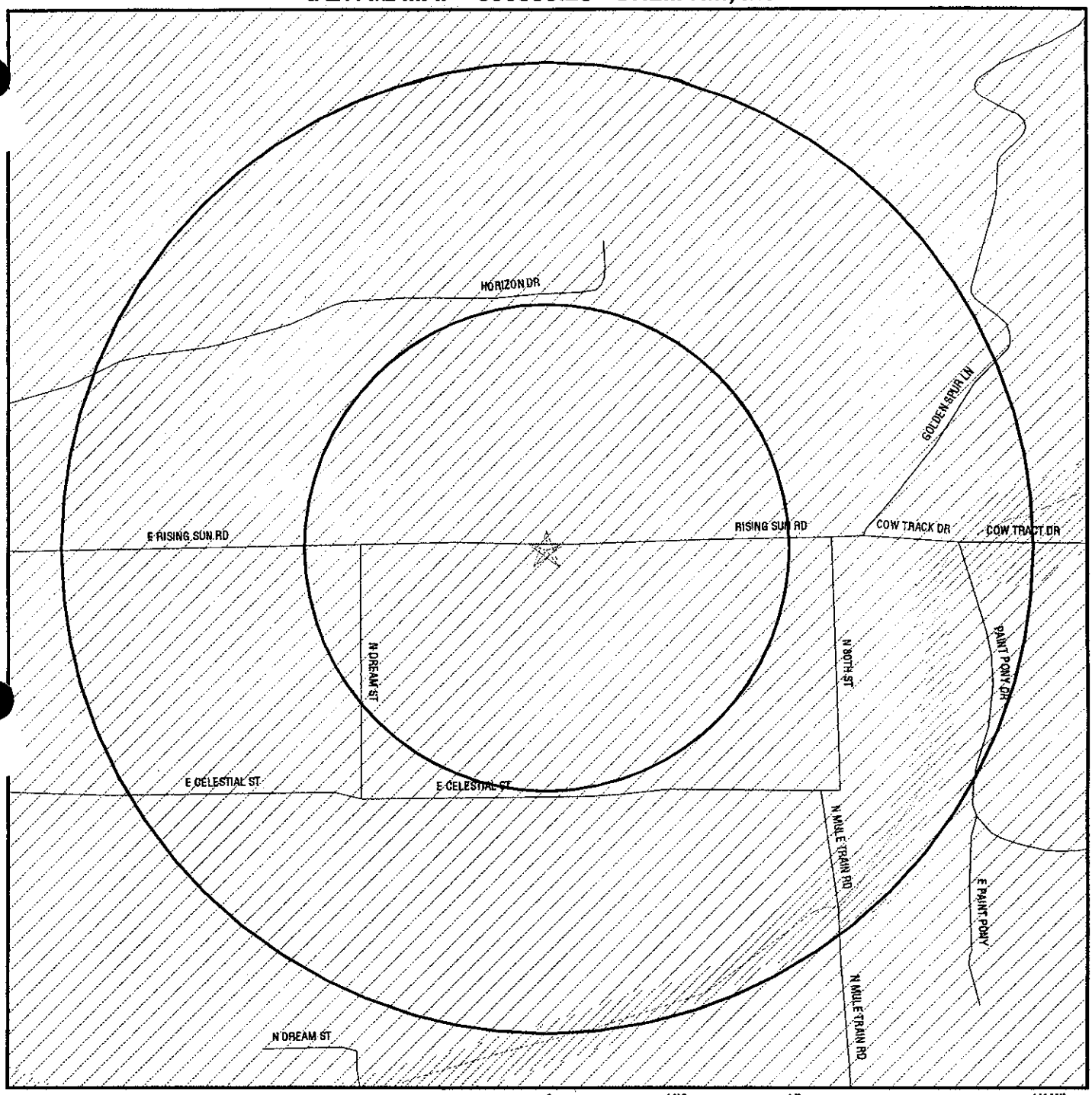
DETAIL MAP - 896955.2s - CH2M Hill, Inc.



0 1/16 1/8 1/4 Miles

- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Coal Gasification Sites
- Sensitive Receptors
- National Priority List Sites
- Landfill Sites
- Power transmission lines
- Oil & Gas pipelines
- 100-year flood zone
- 500-year flood zone
- Dept. of Defense Sites
- Water Quality Assurance Revolving Fund Areas

TARGET PROPERTY:	Carefree Drainage Master Plan	CUSTOMER:	CH2M Hill, Inc.
ADDRESS:	190/Jef 53	CONTACT:	Monique Chaisson
CITY/STATE/ZIP:	Carefree AZ 85377	INQUIRY #:	896955.2s
LAT/LONG:	33.8320 / 111.9113	DATE:	December 12, 2002 3:42 pm

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MAP FINDINGS SUMMARY

Database	Target Property	Search Distance (Miles)	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
FEDERAL ASTM STANDARD								
NPL		1.000	0	0	0	0	NR	0
Proposed NPL		1.000	0	0	0	0	NR	0
CERCLIS		0.500	0	0	0	NR	NR	0
CERC-NFRAP		0.250	0	0	NR	NR	NR	0
CORRACTS		1.000	0	0	0	0	NR	0
RCRIS-TSD		0.500	0	0	0	NR	NR	0
RCRIS Lg. Quan. Gen.		0.250	0	0	NR	NR	NR	0
RCRIS Sm. Quan. Gen.		0.250	0	0	NR	NR	NR	0
ERNS		TP	NR	NR	NR	NR	NR	0
STATE ASTM STANDARD								
SPL		1.000	0	0	0	0	NR	0
State Haz. Waste		1.000	0	0	0	0	NR	0
State Landfill		0.500	0	0	0	NR	NR	0
LUST		0.500	0	0	0	NR	NR	0
UST		0.250	0	0	NR	NR	NR	0
AZ WQARF		1.000	0	0	0	0	NR	0
FEDERAL ASTM SUPPLEMENTAL								
CONSENT		1.000	0	0	0	0	NR	0
ROD		1.000	0	0	0	0	NR	0
Delisted NPL		1.000	0	0	0	0	NR	0
FINDS		TP	NR	NR	NR	NR	NR	0
HMIRS		TP	NR	NR	NR	NR	NR	0
MLTS		TP	NR	NR	NR	NR	NR	0
MINES		0.250	0	0	NR	NR	NR	0
NPL Liens		TP	NR	NR	NR	NR	NR	0
PADS		TP	NR	NR	NR	NR	NR	0
RAATS		TP	NR	NR	NR	NR	NR	0
TRIS		TP	NR	NR	NR	NR	NR	0
TSCA		TP	NR	NR	NR	NR	NR	0
SSTS		TP	NR	NR	NR	NR	NR	0
FTTS		TP	NR	NR	NR	NR	NR	0
STATE OR LOCAL ASTM SUPPLEMENTAL								
AST		TP	NR	NR	NR	NR	NR	0
AZ Spills		TP	NR	NR	NR	NR	NR	0
AZ DOD		0.500	0	0	0	NR	NR	0
WWFAC		0.500	0	0	0	NR	NR	0
Aquifer		TP	NR	NR	NR	NR	NR	0
Dry Wells		TP	NR	NR	NR	NR	NR	0
AZ AIRS		TP	NR	NR	NR	NR	NR	0
EDR PROPRIETARY HISTORICAL DATABASES								
Coal Gas		1.000	0	0	0	0	NR	0

MAP FINDINGS SUMMARY

Database	Target Property	Search Distance (Miles)	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted

AQUIFLOW - see EDR Physical Setting Source Addendum

TP = Target Property

NR = Not Requested at this Search Distance

* Sites may be listed in more than one database

Map ID Direction Distance Distance (ft.) Elevation	Site	Database(s)	EDR ID Number EPA ID Number

Coal Gas Site Search: No site was found in a search of Real Property Scan's ENVIROHAZ database.

NO SITES FOUND

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
CAREFREE	1000202304	CAREFREE CLEANERS	36889 N TOM DARLINGTON DR	85377	RCRIS-SQG, FINDS
CAVE CREEK	S104826745	BLACK MOUNTAIN SHADOWS	6948 E. HORIZON DRIVE	85331	WWFAC
CAVE CREEK	1003878171	CAVE CREEK LDFL	1 1/2 MI W OF CAREFREE HWY	85331	CERC-NFRAP
CAVE CREEK	S102787860	CAVE CREEK, TOWN OF WWTP	5600 E. RANCHO MANANA BLV	85331	Aquifer, WWFAC
MARICOPA COUNTY	S103895113	DEER VALLEY	19TH AVE. AND SOUTH OF GREENWA		SWF/LF
MARICOPA COUNTY	S103895110	CITY OF PHOENIX 22ND AVE.	22ND AVE. AND LOWER BUCKEYE RD		SWF/LF
MARICOPA COUNTY	S103895104	ARIZONA SAND & ROCK	AGUA FRIA RIVER AND GRAND AVE.		SWF/LF
MARICOPA COUNTY	S103895000	MARTORI FARMS	AGUILA, AZ		SWF/LF
MARICOPA COUNTY	S103278189	QUEEN CREEK	26402 B.SOUTH HAWES RD.1/2 MIL		SWF/LF, WWFAC
MARICOPA COUNTY	S103895106	BEARDSLEY	BETWEEN CENTRAL AVE. AND 7TH S		SWF/LF
MARICOPA COUNTY	S103277500	DEL RIO	BETWEEN 7TH AND 16TH ST. NORTH		SWF/LF, WWFAC
MARICOPA COUNTY	S103086637	RESOURCE PROCESSING INC.	CENTRAL PORTION OF GILA BEND B		SWF/LF
MARICOPA COUNTY	S103895118	LAYLOR MATERIALS	NORTHEAST CORNER OF 16TH ST. B		SWF/LF
MARICOPA COUNTY	S103895127	UFI	SOUTHEAST CORNER OF 123RD. AVE		SWF/LF
MARICOPA COUNTY	S103895128	VAL VISTA	SOUTHEAST CORNER OF RAY RD. AN		SWF/LF
MARICOPA COUNTY	S103895130	WILLIAMS AIR FORCE BASE	SOUTHWEST CORNER OF WILLIAMS A		SWF/LF
MARICOPA COUNTY	S103894997	DEER VALLEY	SW CORNER OF 12TH ST. AND ALAM		SWF/LF
MARICOPA COUNTY	S103895108	CITY OF MESA	NORTHEAST CORNER OF CENTER ST.		SWF/LF
MARICOPA COUNTY	S103895120	OLD TOWN DUMP	DYSART RD. TO RID CANAL NORTH		SWF/LF
MARICOPA COUNTY	S103895115	GENERAL MOTORS PROVING GROUNDS	ELLIOT RD. EAST TO SOSSMAN RD.		SWF/LF
MARICOPA COUNTY	S103894995	CITY OF CHANDLER	GILA AND SALT RIVER BASE AND M		SWF/LF
MARICOPA COUNTY	S103086668	CHANDLER INT. #1 INTERIM	SOUTHEAST INTERSECTION OF FRYE		SWF/LF
MARICOPA COUNTY	S103809877	WQ-GILA RIVER DDT	LOWER GILA RIVER--SW AZ		SHWS
MARICOPA COUNTY	S103895111	CITY OF PHOENIX 91ST AVE.	WEST SIDE OF 91ST. AVE.		SWF/LF
MARICOPA COUNTY	S100293344	27TH AVENUE	THE SOUTHWEST CORNER OF 27TH A		SWF/LF
MARICOPA COUNTY	S100293350	DEER VALLEY LANDFILL	THE SOUTHWEST CORNER OF 16TH S		SWF/LF
MARICOPA COUNTY	S100293354	LONE CACTUS LANDFILL	ON THE N WEST CORNER OF 7TH ST		SWF/LF
MARICOPA COUNTY	S103895121	PERRYVILLE	YUMA RD. EAST OF LUKE AIR FORC		SWF/LF

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Elapsed ASTM days: Provides confirmation that this EDR report meets or exceeds the 90-day updating requirement of the ASTM standard.

FEDERAL ASTM STANDARD RECORDS

NPL: National Priority List
Source: EPA
Telephone: N/A
National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 10/24/02
Date Made Active at EDR: 12/09/02
Database Release Frequency: Semi-Annually
Date of Data Arrival at EDR: 11/04/02
Elapsed ASTM days: 35
Date of Last EDR Contact: 11/04/02

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 3
Telephone 215-814-5418

EPA Region 4
Telephone 404-562-8033

EPA Region 6
Telephone: 214-655-6659

EPA Region 8
Telephone: 303-312-6774

Proposed NPL: Proposed National Priority List Sites
Source: EPA
Telephone: N/A

Date of Government Version: 10/24/02
Date Made Active at EDR: 12/09/02
Database Release Frequency: Semi-Annually
Date of Data Arrival at EDR: 11/04/02
Elapsed ASTM days: 35
Date of Last EDR Contact: 11/04/02

CERCLIS: Comprehensive Environmental Response, Compensation, and Liability Information System
Source: EPA
Telephone: 703-413-0223
CERCLIS contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). CERCLIS contains sites which are either proposed to or on the National Priorities List (NPL) and sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 08/15/02
Date Made Active at EDR: 10/28/02
Database Release Frequency: Quarterly
Date of Data Arrival at EDR: 09/23/02
Elapsed ASTM days: 35
Date of Last EDR Contact: 09/23/02

CERCLIS-NFRAP: CERCLIS No Further Remedial Action Planned
Source: EPA
Telephone: 703-413-0223
As of February 1995, CERCLIS sites designated "No Further Remedial Action Planned" (NFRAP) have been removed from CERCLIS. NFRAP sites may be sites where, following an initial investigation, no contamination was found, contamination was removed quickly without the need for the site to be placed on the NPL, or the contamination was not serious enough to require Federal Superfund action or NPL consideration. EPA has removed approximately 25,000 NFRAP sites to lift the unintended barriers to the redevelopment of these properties and has archived them as historical records so EPA does not needlessly repeat the investigations in the future. This policy change is part of the EPA's Brownfields Redevelopment Program to help cities, states, private investors and affected citizens to promote economic redevelopment of unproductive urban sites.

Date of Government Version: 09/15/02
Date Made Active at EDR: 10/28/02
Database Release Frequency: Quarterly
Date of Data Arrival at EDR: 10/03/02
Elapsed ASTM days: 25
Date of Last EDR Contact: 09/23/02

CORRACTS: Corrective Action Report
Source: EPA
Telephone: 800-424-9346
CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 05/02/02
Date Made Active at EDR: 07/15/02
Database Release Frequency: Semi-Annually
Date of Data Arrival at EDR: 05/06/02
Elapsed ASTM days: 70
Date of Last EDR Contact: 09/09/02

RCRIS: Resource Conservation and Recovery Information System
Source: EPA/NTIS
Telephone: 800-424-9346
Resource Conservation and Recovery Information System. RCRIS includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA).

Date of Government Version: 09/09/02
Date Made Active at EDR: 10/28/02
Database Release Frequency: Varies
Date of Data Arrival at EDR: 09/24/02
Elapsed ASTM days: 34
Date of Last EDR Contact: 09/24/02

ERNS: Emergency Response Notification System
Source: EPA/NTIS
Telephone: 202-260-2342
Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 12/31/01
Date Made Active at EDR: 07/15/02
Database Release Frequency: Varies
Date of Data Arrival at EDR: 07/02/02
Elapsed ASTM days: 13
Date of Last EDR Contact: 10/28/02

FEDERAL ASTM SUPPLEMENTAL RECORDS

BRS: Biennial Reporting System
Source: EPA/NTIS
Telephone: 800-424-9346
The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/99
Database Release Frequency: Biennially
Date of Last EDR Contact: 09/16/02
Date of Next Scheduled EDR Contact: 12/16/02

CONSENT: Superfund (CERCLA) Consent Decrees
Source: EPA Regional Offices
Telephone: Varies
Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: N/A
Database Release Frequency: Varies
Date of Last EDR Contact: N/A
Date of Next Scheduled EDR Contact: N/A

ROD: Records Of Decision
Source: EPA
Telephone: 703-416-0223
Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 12/21/01
Database Release Frequency: Annually

Date of Last EDR Contact: 10/07/02
Date of Next Scheduled EDR Contact: 01/06/03

DELISTED NPL: National Priority List Deletions
Source: EPA
Telephone: N/A
The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 10/18/02
Database Release Frequency: Quarterly

Date of Last EDR Contact: 11/04/02
Date of Next Scheduled EDR Contact: 02/03/03

FINDS: Facility Index System/Facility Identification Initiative Program Summary Report
Source: EPA
Telephone: N/A
Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 10/10/02
Database Release Frequency: Quarterly

Date of Last EDR Contact: 10/07/02
Date of Next Scheduled EDR Contact: 01/06/03

HMIRS: Hazardous Materials Information Reporting System
Source: U.S. Department of Transportation
Telephone: 202-366-4555
Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 07/31/02
Database Release Frequency: Annually

Date of Last EDR Contact: 10/21/02
Date of Next Scheduled EDR Contact: 01/20/03

MLTS: Material Licensing Tracking System
Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 10/21/02
Database Release Frequency: Quarterly

Date of Last EDR Contact: 10/08/02
Date of Next Scheduled EDR Contact: 01/06/03

MINES: Mines Master Index File
Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959

Date of Government Version: 09/10/02
Database Release Frequency: Semi-Annually

Date of Last EDR Contact: 09/30/02
Date of Next Scheduled EDR Contact: 12/30/02

NPL LIENS: Federal Superfund Liens
Source: EPA
Telephone: 205-564-4267
Federal Superfund Liens. Under the authority granted the USEPA by the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner receives notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/91
Database Release Frequency: No Update Planned
Date of Last EDR Contact: 11/25/02
Date of Next Scheduled EDR Contact: 02/24/03

PADS: PCB Activity Database System
Source: EPA
Telephone: 202-564-3887
PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 06/28/02
Database Release Frequency: Annually
Date of Last EDR Contact: 11/13/02
Date of Next Scheduled EDR Contact: 02/10/03

RAATS: RCRA Administrative Action Tracking System
Source: EPA
Telephone: 202-564-4104
RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/95
Database Release Frequency: No Update Planned
Date of Last EDR Contact: 09/10/02
Date of Next Scheduled EDR Contact: 12/09/02

TRIS: Toxic Chemical Release Inventory System
Source: EPA
Telephone: 202-260-1531
Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/00
Database Release Frequency: Annually
Date of Last EDR Contact: 09/24/02
Date of Next Scheduled EDR Contact: 12/23/02

TSCA: Toxic Substances Control Act
Source: EPA
Telephone: 202-260-5521
Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/98
Database Release Frequency: Every 4 Years
Date of Last EDR Contact: 09/09/02
Date of Next Scheduled EDR Contact: 12/09/02

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
Source: EPA
Telephone: 202-564-2501

Date of Government Version: 04/25/02
Database Release Frequency: Quarterly
Date of Last EDR Contact: 09/24/02
Date of Next Scheduled EDR Contact: 12/23/02

SSTS: Section 7 Tracking Systems
Source: EPA
Telephone: 202-564-5008
Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 12/31/00
Database Release Frequency: Annually
Date of Last EDR Contact: 10/22/02
Date of Next Scheduled EDR Contact: 01/20/03

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-564-2501
FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/25/02
Database Release Frequency: Quarterly
Date of Last EDR Contact: 09/24/02
Date of Next Scheduled EDR Contact: 12/23/02

STATE OF ARIZONA ASTM STANDARD RECORDS

SPL: Superfund Program List
Source: Dept. of Environmental Quality
Telephone: 602-771-4360
The list is representative of the sites and potential sites within the jurisdiction of the Superfund Program Section. It is comprised of the following elements: 1) Water Quality Assurance Revolving Fund Registry Sites; 2) Potential WQARF Registry sites; 3) NPL sites; and 4) Department of Defense sites requiring SPS oversight.

Date of Government Version: 07/15/02
Date Made Active at EDR: 10/04/02
Database Release Frequency: Semi-Annually
Date of Data Arrival at EDR: 09/03/02
Elapsed ASTM days: 31
Date of Last EDR Contact: 12/02/02

SHWS: ZipAcids List
Source: Department of Environmental Quality
Telephone: 602-771-4360
The ACIDS list consists of more than 750 locations subject to investigation under the State Water Quality Assurance Revolving Fund (WQARF) and Federal CERCLA programs. The list is no longer updated by the state.

Date of Government Version: 01/03/00
Date Made Active at EDR: 05/16/00
Database Release Frequency: No Update Planned
Date of Data Arrival at EDR: 04/11/00
Elapsed ASTM days: 35
Date of Last EDR Contact: 10/21/02

SWF/LF: Directory of Solid Waste Facilities
Source: Department of Environmental Quality
Telephone: 602-771-4132
Solid Waste Facilities/Landfill Sites. SWF/LF type records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. Depending on the state, these may be active or inactive facilities or open dumps that failed to meet RCRA Subtitle D Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 11/01/00
Date Made Active at EDR: 02/01/01
Database Release Frequency: Annually
Date of Data Arrival at EDR: 01/02/01
Elapsed ASTM days: 30
Date of Last EDR Contact: 11/15/02

LUST: Leaking Underground Storage Tank Listing
Source: Department of Environmental Quality
Telephone: 602-771-4345
Leaking Underground Storage Tank Incident Reports. LUST records contain an inventory of reported leaking underground storage tank incidents. Not all states maintain these records, and the information stored varies by state.

Date of Government Version: 10/30/02
Date Made Active at EDR: 11/25/02
Database Release Frequency: Semi-Annually
Date of Data Arrival at EDR: 11/12/02
Elapsed ASTM days: 13
Date of Last EDR Contact: 11/12/02

UST: Underground Storage Tank Listing
Source: Department of Environmental Quality
Telephone: 602-771-4345
Registered Underground Storage Tanks. UST's are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA) and must be registered with the state department responsible for administering the UST program. Available information varies by state program.

Date of Government Version: 02/06/02
Date Made Active at EDR: 04/01/02
Database Release Frequency: Annually

Date of Data Arrival at EDR: 03/11/02
Elapsed ASTM days: 21
Date of Last EDR Contact: 11/12/02

WQARF: Water Quality Assurance Revolving Fund Sites
Source: Department of Environmental Quality
Telephone: 602-771-4360
Sites which may have an actual or potential impact upon the waters of the state, cause by hazardous substances. The WQARF program provides matching funds to political subdivisions and other state agencies for clean-up activities.

Date of Government Version: 03/08/02
Date Made Active at EDR: 04/30/02
Database Release Frequency: Annually

Date of Data Arrival at EDR: 03/25/02
Elapsed ASTM days: 36
Date of Last EDR Contact: 09/25/02

STATE OF ARIZONA ASTM SUPPLEMENTAL RECORDS

AST: List of Aboveground Storage Tanks
Source: Dept. of Building & Fire Safety
Telephone: 602-364-1003
Aboveground storage tanks that the Dept. of Building & Fire Safety have permitted.

Date of Government Version: 12/31/00
Database Release Frequency: Annually

Date of Last EDR Contact: 10/25/02
Date of Next Scheduled EDR Contact: 01/13/03

SPILLS: Hazardous Material Logbook
Source: Department of Environmental Quality
Telephone: 602-771-4153
ADEQ Emergency Response Unit. The ADEQ Emergency Response Unit documents chemical spills and incidents which are referred to the Unit. The logbook information for 1984-1986 consists of handwritten entries of the date, incident number and name of facility if known. Current logbooks are computerized and can be sorted by date, incident number, name, city (zip codes are not included), county, chemical and quantity.

Date of Government Version: 06/30/00
Database Release Frequency: Semi-Annually

Date of Last EDR Contact: 09/30/00
Date of Next Scheduled EDR Contact: 12/30/02

DOD: Department of Defense Sites
Source: Department of Environmental Quality
Telephone: 602-771-4360
These sites are federal facilities that are either being assessed for potential contamination, or have active remediation taking place on them.

Date of Government Version: 03/08/02
Database Release Frequency: Annually

Date of Last EDR Contact: 09/25/02
Date of Next Scheduled EDR Contact: 12/23/02

WWFAC: Waste Water Treatment Facilities
Source: Department of Environmental Quality
Telephone: 602-771-4623
Statewide list of waste water treatment facilities.

Date of Government Version: 12/12/00
Database Release Frequency: Varies

Date of Last EDR Contact: 11/25/02
Date of Next Scheduled EDR Contact: 02/24/03

AQUIFER: Waste Water Treatment Facilities
Source: Department of Environmental Quality
Telephone: 602-771-4623
Waste Water Treatment Facilities with APP (Aquifer Protection Permits.)

Date of Government Version: 11/01/01
Database Release Frequency: Semi-Annually

Date of Last EDR Contact: 10/28/02
Date of Next Scheduled EDR Contact: 01/27/03

DRY WELLS: Drywell Registration
Source: Department of Environmental Quality
Telephone: 602-771-4686
A drywell is a bored, drilled, or driven shaft or hole whose depth is greater than its width and is designed and constructed specifically for the disposal of storm water.

Date of Government Version: 09/01/02
Database Release Frequency: Semi-Annually
Date of Last EDR Contact: 09/23/02
Date of Next Scheduled EDR Contact: 12/23/02

AZ AIRS: Arizona Airs Database
Source: Department of Environmental Quality
Telephone: 602-771-2344
Arizona major (has the potential to emit over 100 tons of criteria pollutant) and minor (below 100 tons) sources.

Date of Government Version: 05/31/02
Database Release Frequency: Semi-Annually
Date of Last EDR Contact: 11/04/02
Date of Next Scheduled EDR Contact: 02/03/03

EDR PROPRIETARY HISTORICAL DATABASES

Former Manufactured Gas (Coal Gas) Sites: The existence and location of Coal Gas sites is provided exclusively to EDR by Real Property Scan, Inc. ©Copyright 1993 Real Property Scan, Inc. For a technical description of the types of hazards which may be found at such sites, contact your EDR customer service representative.

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OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

Oil/Gas Pipelines/Electrical Transmission Lines: This data was obtained by EDR from the USGS in 1994. It is referred to by USGS as GeoData Digital Line Graphs from 1:100,000-Scale Maps. It was extracted from the transportation category including some oil, but primarily gas pipelines and electrical transmission lines.

Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 1999 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002 from the U.S. Fish and Wildlife Service.

STREET AND ADDRESS INFORMATION

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GEOCHECK®- PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

CAREFREE DRAINAGE MASTER PLAN
190/JEF 53
CAREFREE, AZ 85377

TARGET PROPERTY COORDINATES

Latitude (North):	33.832001 - 33° 49' 55.2"
Longitude (West):	111.911301 - 111° 54' 40.7"
Universal Tranverse Mercator:	Zone 12
UTM X (Meters):	415674.8
UTM Y (Meters):	3743708.2

EDR's GeoCheck Physical Setting Source Addendum has been developed to assist the environmental professional with the collection of physical setting source information in accordance with ASTM 1527-00, Section 7.2.3. Section 7.2.3 requires that a current USGS 7.5 Minute Topographic Map (or equivalent, such as the USGS Digital Elevation Model) be reviewed. It also requires that one or more additional physical setting sources be sought when (1) conditions have been identified in which hazardous substances or petroleum products are likely to migrate to or from the property, and (2) more information than is provided in the current USGS 7.5 Minute Topographic Map (or equivalent) is generally obtained, pursuant to local good commercial or customary practice, to assess the impact of migration of recognized environmental conditions in connection with the property. Such additional physical setting sources generally include information about the topographic, hydrologic, hydrogeologic, and geologic characteristics of a site, and wells in the area.

Assessment of the impact of contaminant migration generally has two principle investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata. EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

TOPOGRAPHIC INFORMATION

Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

USGS TOPOGRAPHIC MAP ASSOCIATED WITH THIS SITE

Target Property: 2433111-G8 CAVE CREEK, AZ
Source: USGS 7.5 min quad index

GENERAL TOPOGRAPHIC GRADIENT AT TARGET PROPERTY

Target Property: General West

Source: General Topographic Gradient has been determined from the USGS 1 Degree Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

Target Property County	FEMA Flood Electronic Data
MARICOPA, AZ	YES - refer to the Overview Map and Detail Map

Flood Plain Panel at Target Property: 04013C0808G

Additional Panels in search area: 04013C0807G
04013C0806G
04013C0809G

NATIONAL WETLAND INVENTORY

NWI Quad at Target Property	NWI Electronic Data Coverage
NOT AVAILABLE	Not Available

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Site-Specific Hydrogeological Data*:

Search Radius:	2.0 miles
Status:	Not found

AQUIFLOW®

Search Radius: 2.000 Miles.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

MAP ID	LOCATION FROM TP	GENERAL DIRECTION GROUNDWATER FLOW
Not Reported		

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

Era:	Cenozoic
System:	Quaternary
Series:	Quaternary
Code:	Q *(decoded above as Era, System & Series)*

GEOLOGIC AGE IDENTIFICATION

Category: Stratifed Sequence

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps. The following information is based on Soil Conservation Service STATSGO data.

* ©1996 Site-specific hydrogeological data gathered by CERCLIS Alerts, Inc., Bainbridge Island, WA. All rights reserved. All of the information and opinions presented are those of the cited EPA report(s), which were completed under a Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS) investigation.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Component Name: GRAN

Soil Surface Texture: very gravelly - sandy loam

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class: Well drained. Soils have intermediate water holding capacity. Depth to water table is more than 6 feet.

Hydric Status: Soil does not meet the requirements for a hydric soil.

Corrosion Potential - Uncoated Steel: HIGH

Depth to Bedrock Min: > 20 inches

Depth to Bedrock Max: > 40 inches

Soil Layer Information

	Boundary			Classification			
Layer	**Upper**	**Lower**	**Soil Texture Class**	**AASHTO Group**	**Unified Soil**	**Permeability Rate (in/hr)**	**Soil Reaction (pH)**
1	0 inches	1 inches	very gravelly - sandy loam	Granular materials (35 pct. or less passing No. 200), Stone Fragments, Gravel and Sand.	COURSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 6.00 Min: 2.00	Max: 8.40 Min: 7.40
2	1 inches	12 inches	very gravelly - sandy clay	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COURSE-GRAINED SOILS, Sands, Sands with fines, Clayey sand.	Max: 0.60 Min: 0.20	Max: 8.40 Min: 7.40
3	12 inches	36 inches	weathered bedrock	Not reported	Not reported	Max: 0.00 Min: 0.00	Max: 0.00 Min: 0.00
4	36 inches	40 inches	unweathered bedrock	Not reported	Not reported	Max: 0.00 Min: 0.00	Max: 0.00 Min: 0.00

OTHER SOIL TYPES IN AREA

Based on Soil Conservation Service STATSGO data, the following additional subordinant soil types may appear within the general area of target property.

Soil Surface Textures: unweathered bedrock
very gravelly - clay loam

Surficial Soil Types: unweathered bedrock
very gravelly - clay loam

Shallow Soil Types: No Other Soil Types

Deeper Soil Types: No Other Soil Types

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

ADDITIONAL ENVIRONMENTAL RECORD SOURCES

According to ASTM E 1527-00, Section 7.2.2, "one or more additional state or local sources of environmental records may be checked, in the discretion of the environmental professional, to enhance and supplement federal and state sources... Factors to consider in determining which local or additional state records, if any, should be checked include (1) whether they are reasonably ascertainable, (2) whether they are sufficiently useful, accurate, and complete in light of the objective of the records review (see 7.1.1), and (3) whether they are obtained, pursuant to local, good commercial or customary practice." One of the record sources listed in Section 7.2.2 is water well information. Water well information can be used to assist the environmental professional in assessing sources that may impact groundwater flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

WELL SEARCH DISTANCE INFORMATION

DATABASE	SEARCH DISTANCE (miles)
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 1 mile
State Database	1.000

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
D20	335004111545901	1/4 - 1/2 Mile WNW
E21	334943111545901	1/4 - 1/2 Mile SW
F25	334930111543001	1/4 - 1/2 Mile SSE
J40	334918111542801	1/2 - 1 Mile SSE
H42	334954111552401	1/2 - 1 Mile West
J49	334914111543301	1/2 - 1 Mile South
M59	334926111535801	1/2 - 1 Mile SE
L61	334946111553301	1/2 - 1 Mile WSW
L62	334945111553301	1/2 - 1 Mile WSW

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
C19	AZ0407015	1/4 - 1/2 Mile WSW

Note: PWS System location is not always the same as well location.

STATE DATABASE WELL INFORMATION

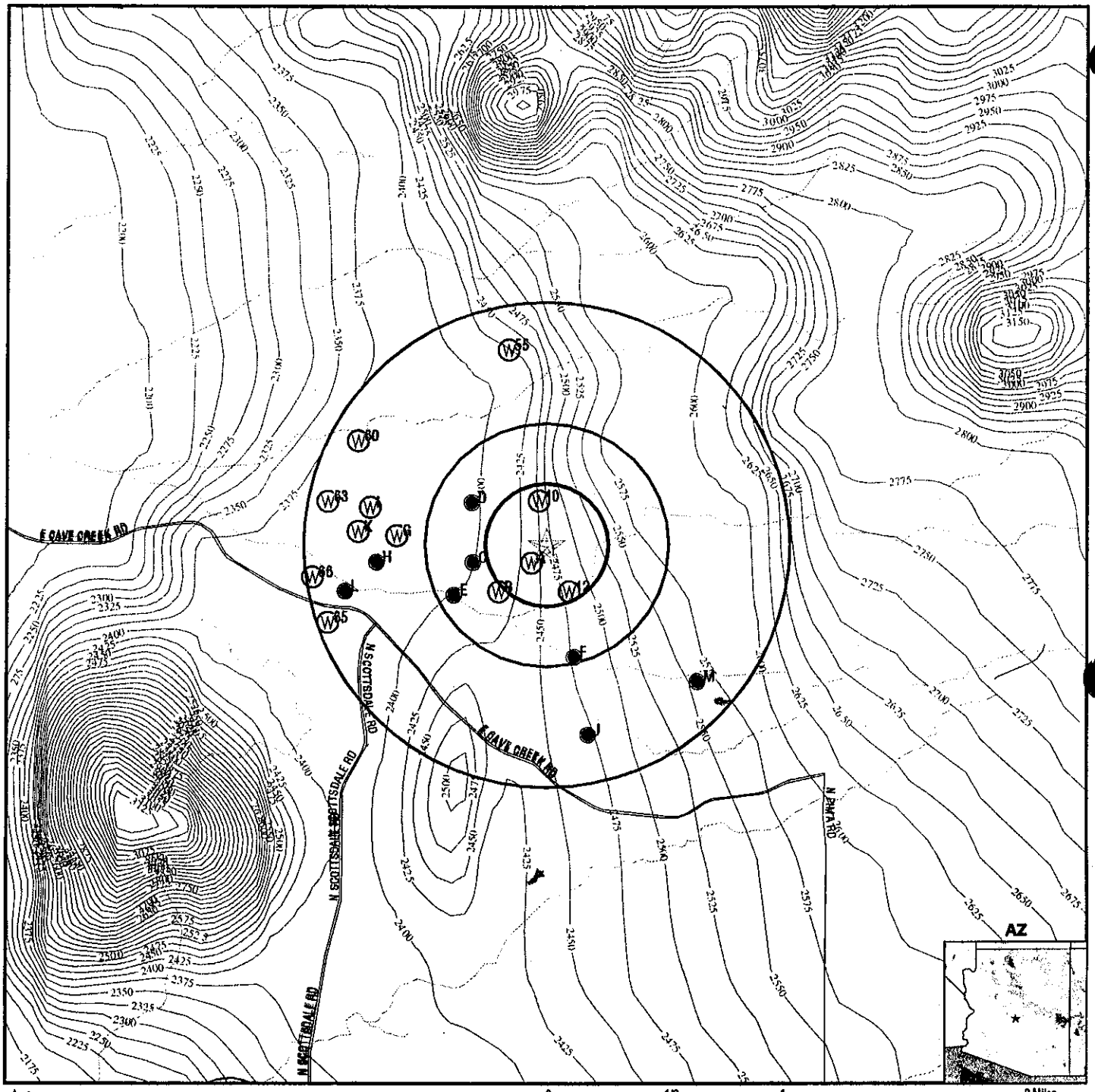
MAP ID	WELL ID	LOCATION FROM TP
A1	AZWR572237	0 - 1/8 Mile SSW
A2	AZWR512174	0 - 1/8 Mile SSW
A3	AZWR806754	0 - 1/8 Mile West
A4	AZWR648169	0 - 1/8 Mile West
A5	AZWR602366	0 - 1/8 Mile West
A6	AZWR803770	1/8 - 1/4 Mile SSE

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
A7	AZWR803769	1/8 - 1/4 Mile SSE
A8	AZWR508721	1/8 - 1/4 Mile WSW
A9	AZWR628046	1/8 - 1/4 Mile WSW
10	AZWR638748	1/8 - 1/4 Mile North
A11	AZWR556858	1/8 - 1/4 Mile South
12	AZWR801084	1/8 - 1/4 Mile SSE
B13	AZWR514904	1/8 - 1/4 Mile SW
B14	AZWR800671	1/8 - 1/4 Mile SW
C15	AZWR602835	1/4 - 1/2 Mile WSW
C16	AZWR632123	1/4 - 1/2 Mile WSW
D17	AZWR629982	1/4 - 1/2 Mile WNW
B18	AZWR604779	1/4 - 1/2 Mile SW
E22	AZWR803530	1/4 - 1/2 Mile WSW
E23	AZWR602820	1/4 - 1/2 Mile WSW
F24	AZWR604780	1/4 - 1/2 Mile SSE
G26	AZWR638233	1/2 - 1 Mile West
G27	AZWR640595	1/2 - 1 Mile West
G28	AZWR803838	1/2 - 1 Mile West
G29	AZWR633667	1/2 - 1 Mile West
G30	AZWR640371	1/2 - 1 Mile West
G31	AZWR525029	1/2 - 1 Mile West
G32	AZWR524910	1/2 - 1 Mile West
H33	AZWR527022	1/2 - 1 Mile West
H34	AZWR537088	1/2 - 1 Mile West
H35	AZWR085289	1/2 - 1 Mile West
H36	AZWR517616	1/2 - 1 Mile West
I37	AZWR538118	1/2 - 1 Mile WNW
I38	AZWR804103	1/2 - 1 Mile West
I39	AZWR636350	1/2 - 1 Mile West
H41	AZWR800715	1/2 - 1 Mile West
K43	AZWR540066	1/2 - 1 Mile West
K44	AZWR639198	1/2 - 1 Mile West
K45	AZWR536365	1/2 - 1 Mile West
K46	AZWR523220	1/2 - 1 Mile West
H47	AZWR513080	1/2 - 1 Mile West
H48	AZWR085006	1/2 - 1 Mile West
I50	AZWR638263	1/2 - 1 Mile WNW
I51	AZWR640368	1/2 - 1 Mile WNW
L52	AZWR544071	1/2 - 1 Mile WSW
L53	AZWR807351	1/2 - 1 Mile WSW
L54	AZWR533284	1/2 - 1 Mile WSW
55	AZWR557173	1/2 - 1 Mile North
M56	AZWR604781	1/2 - 1 Mile SE
J57	AZWR503642	1/2 - 1 Mile SSE
J58	AZWR611876	1/2 - 1 Mile SSE
60	AZWR601779	1/2 - 1 Mile WNW
63	AZWR502299	1/2 - 1 Mile West
L64	AZWR639925	1/2 - 1 Mile WSW
65	AZWR800833	1/2 - 1 Mile WSW
66	AZWR803771	1/2 - 1 Mile West

PHYSICAL SETTING SOURCE MAP - 896955.2s



County Boundary
Major Roads
Contour Lines
Water Wells
Public Water Supply Wells
Groundwater Flow Direction
Indeterminate Groundwater Flow at Location
Groundwater Flow Varies at Location
Cluster of Multiple Icons

0 1/2 1 2 Miles

Earthquake epicenter, Richter 5 or greater
Closest Hydrogeological Data

TARGET PROPERTY:	Carefree Drainage Master Plan	CUSTOMER:	CH2M Hill, Inc.
ADDRESS:	190/Jef 53	CONTACT:	Monique Chaisson
CITY/STATE/ZIP:	Carefree AZ 85377	INQUIRY #:	896955.2s
LAT/LONG:	33.8320 / 111.9113	DATE:	December 12, 2002 3:43 pm

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Map ID Direction Distance Elevation		Database	EDR ID Number
A1 **SSW** **0 - 1/8 Mile** **Lower**		**AZ WELLS**	**AZWR572237**

Registryid:	572237	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SE
Acre40:	SE	Acre10:	NW
Utmx:	415689.5	Utmy:	3743594.9
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	04/02/1999 00:00:00	Installed:	Not Reported
Driller:	141	Welldepth:	0
Waterlevel:	0	Casingtype:	Not Reported
Casingdeep:	0	Casingwide:	0
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drilllog:	Not Reported
Lastname:	JONES	Firstname:	ROBERT W
Company:	Not Reported		
Address:	14002 N 49TH AVE #1062		
City:	GLENDALE	State:	AZ
Zipcode:	85306	Cancelled:	Y

Driller:	141
Company:	UNIVERSAL DRILLING, INC.
Address:	P.O. BOX 1027 WICKENBURG, AZ 85358

A2 **SSW** **0 - 1/8 Mile** **Lower**		**AZ WELLS**	**AZWR512174**

Registryid:	512174	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SE
Acre40:	SE	Acre10:	NW
Utmx:	415689.5	Utmy:	3743594.9
Welltype:	DOMESTIC STOCK EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported

Approved:	Not Reported	Installed:	08/27/1985 00:00:00
Driller:	126	Welldepth:	300
Waterlevel:	200	Casingtype:	PLASTIC OR PVC
Casingdeep:	300	Casingwide:	8
Pumptype:	SUBMERSIBLE	Pumppower:	ELECTRIC MOTOR 1 - 5 HP
Pumprate:	33	Testrate:	40
Drawdown:	0	Drilllog:	X
Lastname:	TEMPO WEST INC,	Firstname:	Not Reported
Company:	Not Reported		
Address:	7895 E ACOMA DR #110		
City:	SCOTTSDALE	State:	AZ
Zipcode:	85260	Cancelled:	Not Reported

Driller:	126
Company:	SOIL SAMPLING SERVICE, INC.
Address:	P.O. BOX 710 PUYALLUP, WA 98371

A3
West
0 - 1/8 Mile
Lower

AZ WELLS **AZWR806754**

Registryid:	806754	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SE
Acre40:	Not Reported	Acre10:	Not Reported
Utmx:	415590.2	Utmy:	3743695.5
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	12/31/1979 00:00:00
Driller:	0	Welldepth:	0
Waterlevel:	0	Casingtype:	Not Reported
Casingdeep:	0	Casingwide:	0
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drilllog:	Not Reported
Lastname:	NICKOLSON, WILLIAM,J	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 5335		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported AZ

Map ID Direction Distance Elevation	Database	EDR ID Number
A4 **West** **0 - 1/8 Mile** **Lower**	**AZ WELLS**	**AZWR648169**

Registryid:	648169	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SE
Acre40:	Not Reported	Acre10:	Not Reported
Utmx:	415590.2	Utmy:	3743695.5
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	01/01/1957 00:00:00
Driller:	0	Welldepth:	250
Waterlevel:	225	Casingtype:	OTHER - BLACK STEEL - IRON - SEAMLESS
Casingdeep:	0	Casingwide:	4
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	1	Testrate:	1
Drawdown:	0	Drilllog:	Not Reported
Lastname:	MC CLLWAIN,R	Firstname:	Not Reported
Company:	Not Reported		
Address:	BOX 2002		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported AZ

A5 **West** **0 - 1/8 Mile** **Lower**	**AZ WELLS**	**AZWR602366**

Registryid:	602366	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SE
Acre40:	Not Reported	Acre10:	Not Reported
Utmx:	415590.2	Utmy:	3743695.5
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported

Approved:	Not Reported	Installed:	01/01/1972 00:00:00
Driller:	0	Welldepth:	650
Waterlevel:	0	Casingtype:	Not Reported
Casingdeep:	0	Casingwide:	0
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	30	Testrate:	30
Drawdown:	0	Drilllog:	Not Reported
Lastname:	GALLOWAY,H R	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 2383		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported AZ

A6
SSE
1/8 - 1/4 Mile
Higher

AZ WELLS **AZWR803770**

Registryid:	803770	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SE
Acre40:	SE	Acre10:	Not Reported
Utmx:	415788.6	Utmy:	3743494.4
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	Not Reported
Driller:	0	Welldepth:	0
Waterlevel:	0	Casingtype:	STEEL - PERFORATED OR SLOTTED CASING
Casingdeep:	0	Casingwide:	0
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drilllog:	Not Reported
Lastname:	PETERS, BERNICE,A	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 1816		
City:	CAVE CREEK	State:	AZ
Zipcode:	85331	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported AZ

Map ID Direction Distance Elevation		Database	EDR ID Number
A7 **SSE** **1/8 - 1/4 Mile** **Higher**		**AZ WELLS**	**AZWR803769**

Registryid:	803769	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SE
Acre40:	SE	Acre10:	Not Reported
Utmx:	415788.6	Utmy:	3743494.4
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	Not Reported
Driller:	0	Welldepth:	0
Waterlevel:	0	Casingtype:	STEEL - PERFORATED OR SLOTTED CASING
Casingdeep:	0	Casingwide:	0
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drilllog:	Not Reported
Lastname:	PETERS, BERNICE,A	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 1816		
City:	CAVE CREEK	State:	AZ
Zipcode:	85331	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported AZ

A8 **WSW** **1/8 - 1/4 Mile** **Lower**		**AZ WELLS**	**AZWR508721**

Registryid:	508721	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SE
Acre40:	SW	Acre10:	NE
Utmx:	415489.4	Utmy:	3743595.9
Welltype:	DOMESTIC STOCK EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported

Approved:	Not Reported	Installed:	02/21/1985 00:00:00
Driller:	127	Welldepth:	290
Waterlevel:	200	Casingtype:	PLASTIC OR PVC
Casingdeep:	280	Casingwide:	8
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drilllog:	X
Lastname:	BOHANNAN JR,B	Firstname:	Not Reported
Company:	Not Reported		
Address:	7000 E BERNEIL DR		
City:	SCOTTSDALE	State:	AZ
Zipcode:	85253	Cancelled:	Not Reported

Driller:	127
Company:	SPUR CROSS DEVELOPMENT, INC.
Address:	38219 N. 3RD AVENUE DESERT HILLS, AZ 85027

A9
WSW
1/8 - 1/4 Mile
Lower

AZ WELLS **AZWR628046**

Registryid:	628046	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SE
Acre40:	SW	Acre10:	NE
Utmx:	415489.4	Utmy:	3743595.9
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	01/01/1973 00:00:00
Driller:	0	Welldepth:	0
Waterlevel:	0	Casingtype:	Not Reported
Casingdeep:	0	Casingwide:	0
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drilllog:	Not Reported
Lastname:	DESZENDEFFY,R	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 556		
City:	LINCOLN PARK	State:	NJ
Zipcode:	07035	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported AZ

Map ID Direction Distance Elevation	Database	EDR ID Number
10 **North** **1/8 - 1/4 Mile** **Higher**	**AZ WELLS**	**AZWR638748**

Registryid:	638748	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SE
Acre40:	NE	Acre10:	NW
Utmx:	415692.8	Utmy:	3743995.5
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	IRRIGATION	Wateruse3:	STOCK
Approved:	Not Reported	Installed:	01/01/1972 00:00:00
Driller:	0	Welldepth:	0
Waterlevel:	0	Casingtype:	STEEL - PERFORATED OR SLOTTED CASING
Casingdeep:	0	Casingwide:	6
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drilllog:	Not Reported
Lastname:	CLEM II,S E	Firstname:	Not Reported
Company:	Not Reported		
Address:	7838 HORIZON DR		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported AZ

A11 **South** **1/8 - 1/4 Mile** **Higher**	**AZ WELLS**	**AZWR556858**

Registryid:	556858	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SE
Acre40:	SE	Acre10:	SW
Utmx:	415687.8	Utmy:	3743394.7
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported

Approved:	Not Reported	Installed:	03/03/1997 00:00:00
Driller:	127	Welldepth:	300
Waterlevel:	180	Casingtype:	PLASTIC OR PVC
Casingdeep:	300	Casingwide:	8
Pumptype:	SUBMERSIBLE	Pumppower:	ELECTRIC MOTOR 1 - 5 HP
Pumprate:	12	Testrate:	0
Drawdown:	0	Drilllog:	X
Lastname:	PAYNE, THOMAS,W	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 9878		
City:	ASPEN	State:	CO
Zipcode:	81611	Cancelled:	Not Reported

Driller:	127
Company:	SPUR CROSS DEVELOPMENT, INC.
Address:	38219 N. 3RD AVENUE DESERT HILLS, AZ 85027

12
SSE
1/8 - 1/4 Mile
Higher

AZ WELLS AZWR801084

Registryid:	801084	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SE
Acre40:	SE	Acre10:	SE
Utmx:	415887.8	Utmy:	3743393.8
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	01/30/1962 00:00:00
Driller:	0	Welldepth:	265
Waterlevel:	265	Casingtype:	OTHER - BLACK STEEL - IRON - SEAMLESS
Casingdeep:	225	Casingwide:	6
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	34	Testrate:	34
Drawdown:	0	Drilllog:	Not Reported
Lastname:	GENTLEMAN COLONEL,A W	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 1023		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported AZ

Map ID Direction Distance Elevation	Database	EDR ID Number
B13 **SW** **1/8 - 1/4 Mile** **Lower**	**AZ WELLS**	**AZWR514904**

Registryid:	514904	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SE
Acre40:	SW	Acre10:	SE
Utmx:	415487.8	Utmy:	3743395.6
Welltype:	DOMESTIC STOCK EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	07/25/1986 00:00:00
Driller:	127	Welldepth:	300
Waterlevel:	70	Casingtype:	PLASTIC OR PVC
Casingdeep:	300	Casingwide:	8
Pumptype:	SUBMERSIBLE	Pumppower:	ELECTRIC MOTOR 1 - 5 HP
Pumprate:	27	Testrate:	30
Drawdown:	0	Drilllog:	X
Lastname:	THREADGILL, SELMAN,	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 2303		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported

Driller:	127
Company:	SPUR CROSS DEVELOPMENT, INC.
Address:	38219 N. 3RD AVENUE DESERT HILLS, AZ 85027

B14 **SW** **1/8 - 1/4 Mile** **Lower**	**AZ WELLS**	**AZWR800671**

Registryid:	800671	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SE
Acre40:	SW	Acre10:	SE
Utmx:	415487.8	Utmy:	3743395.6
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	STOCK	Wateruse3:	Not Reported

Approved:	Not Reported	Installed:	Not Reported
Driller:	0	Welldepth:	0
Waterlevel:	0	Casingtype:	Not Reported
Casingdeep:	0	Casingwide:	0
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drillog:	Not Reported
Lastname:	COMICK, MICHAEL,E	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 2793		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported
	AZ

C15
WSW
1/4 - 1/2 Mile
Lower

AZ WELLS **AZWR602835**

Registryid:	602835	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SE
Acre40:	SW	Acre10:	NW
Utmx:	415289.4	Utmy:	3743596.8
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	IRRIGATION
Wateruse2:	DOMESTIC	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	01/30/1975 00:00:00
Driller:	0	Welldepth:	250
Waterlevel:	100	Casingtype:	STEEL - PERFORATED OR SLOTTED CASING
Casingdeep:	250	Casingwide:	8
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	35	Testrate:	35
Drawdown:	0	Drillog:	Not Reported
Lastname:	BANE,J	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 1488		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported
	AZ

Map ID Direction Distance Elevation	Database	EDR ID Number
C16 **WSW** **1/4 - 1/2 Mile** **Lower**	**AZ WELLS**	**AZWR632123**

Registryid:	632123	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SE
Acre40:	SW	Acre10:	NW
Utmx:	415289.4	Utmy:	3743596.8
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	08/15/1978 00:00:00
Driller:	0	Welldepth:	250
Waterlevel:	96	Casingtype:	STEEL - PERFORATED OR SLOTTED CASING
Casingdeep:	250	Casingwide:	6
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	20	Testrate:	20
Drawdown:	0	Drilllog:	Not Reported
Lastname:	STEIGERWALD,J	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 1026		
City:	CAREFREE	State:	AZ
Zipcode:	85977	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported AZ

D17 **WNW** **1/4 - 1/2 Mile** **Lower**	**AZ WELLS**	**AZWR629982**

Registryid:	629982	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SE
Acre40:	NW	Acre10:	NW
Utmx:	415292.8	Utmy:	3743997.3
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported

Approved:	Not Reported	Installed:	01/01/1974 00:00:00
Driller:	0	Welldepth:	300
Waterlevel:	0	Casingtype:	STEEL - PERFORATED OR SLOTTED CASING
Casingdeep:	300	Casingwide:	6
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drillog:	Not Reported
Lastname:	MALFETTI, JAMES,L	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 5327		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported
	AZ

B18
SW
1/4 - 1/2 Mile
Lower

AZ WELLS **AZWR604779**

Registryid:	604779	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SE
Acre40:	SW	Acre10:	SW
Utmx:	415287.7	Utmy:	3743396.5
Welltype:	NON-EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	MUNICIPAL
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	01/01/1959 00:00:00
Driller:	0	Welldepth:	485
Waterlevel:	82	Casingtype:	STEEL - PERFORATED OR SLOTTED CASING
Casingdeep:	485	Casingwide:	16
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	140	Testrate:	140
Drawdown:	0	Drillog:	Not Reported
Lastname:	CAREFREE WATER CO,	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 702		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported

Registryid:	604779	Pump1984:	159.1
Pump1985:	145.11	Pump1986:	153.06
Pump1987:	86.5	Pump1988:	53.76
Pump1989:	122.75	Pump1990:	134.77
Pump1991:	137.78	Pump1992:	121.36
Pump1993:	124.99	Pump1994:	117.27
Pump1995:	89.87	Pump1996:	83.75
Pump1997:	69.26	Pump1998:	79.56
Pump1999:	45.09	Pumptotal:	1792.16

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported AZ

C19
WSW
1/4 - 1/2 Mile
Lower

FRDS PWS **AZ0407015**

PWS ID:	AZ0407015	PWS Status:	Not Reported
Date Initiated:	Not Reported	Date Deactivated:	Not Reported
PWS Name:	CAREFREE WATER CO INC PO BOX 702 CAREFREE, AZ 85377		
Addressee / Facility:	System Owner/Responsible Party CAREFREE WATER CO INC P.O. BOX 7724 PHOENIX, AZ 85011		

Facility Latitude:	33 49 51	Facility Longitude:	111 55 00
Facility Latitude:	33 49 33	Facility Longitude:	111 54 29
Facility Latitude:	33 48 47	Facility Longitude:	111 52 50
Facility Latitude:	33 48 47	Facility Longitude:	111 53 24
Facility Latitude:	33 49 22	Facility Longitude:	111 53 59
City Served:	CAREFREE		
Treatment Class:	Untreated	Population:	2400

PWS currently has or had major violation(s) or enforcement: Yes

Violations information not reported.

ENFORCEMENT INFORMATION:

System Name:	CAREFREE WATER CO INC		
Violation Type:	Monitoring, Routine Minor (TCR)		
Contaminant:	COLIFORM (TCR)		
Compliance Period:	1998-01-01 - 1998-01-31	Analytical Value:	0000000.000000000
Violation ID:	98036146	Enforcement ID:	Not Reported
Enforcement Date:	Not Reported	Enf. Action:	Not Reported

D20
WNW
1/4 - 1/2 Mile
Lower

FED USGS **335004111545901**

BASIC WELL DATA

Site Type:	Single well, other than collector or Ranney type		
Year Constructed:	1975	County:	Maricopa
Altitude:	2400.00 ft.	State:	Arizona
Well Depth:	305.00 ft.	Topographic Setting:	Hilltop
Depth to Water Table:	Not Reported	Prim. Use of Site:	Unused
Date Measured:	Not Reported	Prim. Use of Water:	Not Reported

Map ID Direction Distance Elevation	Database	EDR ID Number
E21 **SW** **1/4 - 1/2 Mile** **Lower**	**FED USGS**	**334943111545901**

BASIC WELL DATA

Site Type:	Single well, other than collector or Ranney type		
Year Constructed:	1959	County:	Maricopa
Altitude:	2375.00 ft.	State:	Arizona
Well Depth:	485.00 ft.	Topographic Setting:	Not Reported
Depth to Water Table:	37.00 ft.	Prim. Use of Site:	Withdrawal of water
Date Measured:	02011959	Prim. Use of Water:	Public supply

E22 **WSW** **1/4 - 1/2 Mile** **Lower**	**AZ WELLS**	**AZWR803530**	

Registryid:	803530	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SW
Acre40:	SE	Acre10:	SE
Utmx:	415087.6	Utmy:	3743397.4
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	01/01/1960 00:00:00
Driller:	0	Welldepth:	104
Waterlevel:	35	Casingtype:	OTHER - BLACK STEEL - IRON - SEAMLESS
Casingdeep:	80	Casingwide:	5
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	8	Testrate:	0
Drawdown:	0	Drilllog:	Not Reported
Lastname:	DUBAS, WALTER,J	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 914		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported AZ

E23 **WSW** **1/4 - 1/2 Mile** **Lower**	**AZ WELLS**	**AZWR602820**

Registryid:	602820	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SW
Acre40:	SE	Acre10:	SE
Utmx:	415087.6	Utmy:	3743397.4
Welltype:	NON-EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	10/17/1979 00:00:00
Driller:	0	Welldepth:	265
Waterlevel:	40	Casingtype:	PLASTIC OR PVC
Casingdeep:	265	Casingwide:	5
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	45	Testrate:	45
Drawdown:	0	Drillog:	Not Reported
Lastname:	PARKE,R E	Firstname:	Not Reported
Company:	Not Reported		
Address:	831 E MISSOURI		
City:	PHOENIX	State:	AZ
Zipcode:	85014	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported AZ

F24
SSE
1/4 - 1/2 Mile
Higher

AZ WELLS **AZWR604780**

Registryid:	604780	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	35	Acre160:	NE
Acre40:	NE	Acre10:	SE
Utmx:	415885.9	Utmy:	3742991.5
Welltype:	NON-EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	MUNICIPAL
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	01/01/1961 00:00:00
Driller:	0	Welldepth:	535
Waterlevel:	132	Casingtype:	STEEL - PERFORATED OR SLOTTED CASING
Casingdeep:	535	Casingwide:	16
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	140	Testrate:	140
Drawdown:	0	Drillog:	Not Reported

Lastname:	CAREFREE WATER CO,	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 702		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported
Registryid:	604780	Pump1984:	122.1
Pump1985:	137.84	Pump1986:	22.76
Pump1987:	.5	Pump1988:	.09
Pump1989:	20.66	Pump1990:	39.9
Pump1991:	21.4	Pump1992:	14.33
Pump1993:	9.54	Pump1994:	24.34
Pump1995:	36.77	Pump1996:	31.92
Pump1997:	27.93	Pump1998:	18.25
Pump1999:	11.88	Pumptotal:	540.27
Driller:	0		
Company:	NO DRILLER SPECIFIED		
Address:	Not Reported		
	AZ		

F25
SSE
1/4 - 1/2 Mile
Higher

FED USGS **334930111543001**

BASIC WELL DATA

Site Type:	Single well, other than collector or Ranney type		
Year Constructed:	Not Reported	County:	Maricopa
Altitude:	2440.00 ft.	State:	Arizona
Well Depth:	535.00 ft.	Topographic Setting:	Not Reported
Depth to Water Table:	104.00 ft.	Prim. Use of Site:	Withdrawal of water
Date Measured:	04011969	Prim. Use of Water:	Public supply

G26
West
1/2 - 1 Mile
Lower

AZ WELLS **AZWR638233**

Registryid:	638233	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SW
Acre40:	NE	Acre10:	SW
Utmx:	414891.1	Utmy:	3743798.9
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	Not Reported
Driller:	0	Welldepth:	0
Waterlevel:	0	Casingtype:	Not Reported
Casingdeep:	0	Casingwide:	0
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drilllog:	Not Reported

Lastname:	WOOD,J M	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 233		
City:	CAVE CREEK	State:	AZ
Zipcode:	85331	Cancelled:	Not Reported
Driller:	0		
Company:	NO DRILLER SPECIFIED		
Address:	Not Reported AZ		

G27
West
1/2 - 1 Mile
Lower

AZ WELLS **AZWR640595**

Registryid:	640595	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SW
Acre40:	Not Reported	Acre10:	Not Reported
Utmx:	414790.1	Utmy:	3743699.3
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	NONE
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	Not Reported
Driller:	0	Welldepth:	0
Waterlevel:	0	Casingtype:	Not Reported
Casingdeep:	0	Casingwide:	0
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drillog:	Not Reported
Lastname:	DIEDRICH, THAYES & E,	Firstname:	Not Reported
Company:	Not Reported		
Address:	1109 WESTWOOD DR		
City:	PLANO	State:	TX
Zipcode:	75075	Cancelled:	Not Reported
Driller:	0		
Company:	NO DRILLER SPECIFIED		
Address:	Not Reported AZ		

G28
West
1/2 - 1 Mile
Lower

AZ WELLS **AZWR803838**

Registryid:	803838	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SW
Acre40:	Not Reported	Acre10:	Not Reported
Utmx:	414790.1	Utmy:	3743699.3
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	10/01/1972 00:00:00
Driller:	0	Welldepth:	0
Waterlevel:	0	Casingtype:	Not Reported
Casingdeep:	0	Casingwide:	0
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drilllog:	Not Reported
Lastname:	WOOD, JEANN,M	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 825		
City:	CAVE CREEK	State:	AZ
Zipcode:	85331	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported
	AZ

G29
West
1/2 - 1 Mile
Lower

AZ WELLS **AZWR633667**

Registryid:	633667	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SW
Acre40:	NW	Acre10:	SE
Utmx:	414691.1	Utmy:	3743799.9
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	IRRIGATION	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	Not Reported
Driller:	0	Welldepth:	0
Waterlevel:	0	Casingtype:	Not Reported
Casingdeep:	0	Casingwide:	0
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	34	Testrate:	34
Drawdown:	0	Drilllog:	Not Reported

Lastname:	AUSMAN JR,E L	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 2575		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported AZ

G30
West
1/2 - 1 Mile
Lower

AZ WELLS **AZWR640371**

Registryid:	640371	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SW
Acre40:	NW	Acre10:	SE
Utmx:	414691.1	Utmy:	3743799.9
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	01/01/1968 00:00:00
Driller:	0	Welldepth:	95
Waterlevel:	41	Casingtype:	STEEL - PERFORATED OR SLOTTED CASING
Casingdeep:	0	Casingwide:	6
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	29	Testrate:	29
Drawdown:	0	Drilllog:	Not Reported
Lastname:	THOMPSON, ROBERT,W	Firstname:	Not Reported
Company:	Not Reported		
Address:	BOX 2333		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported AZ

G31
West
1/2 - 1 Mile
Lower

AZ WELLS **AZWR525029**

Registryid:	525029	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SW
Acre40:	NW	Acre10:	SE
Utmx:	414691.1	Utmy:	3743799.9
Welltype:	DOMESTIC STOCK EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	06/25/1989 00:00:00
Driller:	127	Welldepth:	300
Waterlevel:	150	Casingtype:	PLASTIC OR PVC
Casingdeep:	300	Casingwide:	8
Pumptype:	SUBMERSIBLE	Pumppower:	ELECTRIC MOTOR 1 - 5 HP
Pumprate:	10	Testrate:	35
Drawdown:	0	Drilllog:	X
Lastname:	MOSER, ALVIN,	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 5430		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported

Driller:	127
Company:	SPUR CROSS DEVELOPMENT, INC.
Address:	38219 N. 3RD AVENUE DESERT HILLS, AZ 85027

G32
West
1/2 - 1 Mile
Lower

AZ WELLS **AZWR524910**

Registryid:	524910	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SW
Acre40:	NW	Acre10:	SE
Utmx:	414691.1	Utmy:	3743799.9
Welltype:	DOMESTIC STOCK EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	06/04/1989 00:00:00
Driller:	127	Welldepth:	300
Waterlevel:	200	Casingtype:	PLASTIC OR PVC
Casingdeep:	300	Casingwide:	8
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drilllog:	X

Lastname:	MARK, ADOLF DE-ROY,	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 1052		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported

Driller:	127
Company:	SPUR CROSS DEVELOPMENT, INC.
Address:	38219 N. 3RD AVENUE DESERT HILLS, AZ 85027

H33
West
1/2 - 1 Mile
Lower

AZ WELLS **AZWR527022**

Registryid:	527022	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SW
Acre40:	SW	Acre10:	NE
Utmx:	414689.3	Utmy:	3743599.6
Welltype:	DOMESTIC STOCK EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	02/06/1990 00:00:00
Driller:	355	Welldepth:	200
Waterlevel:	58	Casingtype:	STEEL - PERFORATED OR SLOTTED CASING
Casingdeep:	200	Casingwide:	8
Pumptype:	CENTRIFUGAL	Pumppower:	ELECTRIC MOTOR < 1 HP
Pumprate:	10	Testrate:	10
Drawdown:	20	Drilllog:	X
Lastname:	O'BOYLE, EDWARD,	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 1723		
City:	CAVE CREEK	State:	AZ
Zipcode:	85331	Cancelled:	Not Reported

Driller:	355
Company:	BEEMAN BROTHERS DRILLING, INC.
Address:	44806 N. 14TH STREET NEW RIVER, AZ 85087

H34
West
1/2 - 1 Mile
Lower

AZ WELLS **AZWR537088**

Registryid:	537088	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SW
Acre40:	SW	Acre10:	NE
Utmx:	414689.3	Utmy:	3743599.6
Welltype:	DOMESTIC STOCK EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	Not Reported
Driller:	355	Welldepth:	0
Waterlevel:	0	Casingtype:	Not Reported
Casingdeep:	0	Casingwide:	0
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drilllog:	Not Reported
Lastname:	CARNICELLI,L	Firstname:	Not Reported
Company:	Not Reported		
Address:	4139 W PT AU PRINCE		
City:	PHOENIX	State:	AZ
Zipcode:	85023	Cancelled:	Y

Driller:	355
Company:	BEEMAN BROTHERS DRILLING, INC.
Address:	44806 N. 14TH STREET NEW RIVER, AZ 85087

H35
West
1/2 - 1 Mile
Lower

AZ WELLS **AZWR085289**

Registryid:	085289	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SW
Acre40:	SW	Acre10:	NE
Utmx:	414689.3	Utmy:	3743599.6
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	01/01/1980 00:00:00
Driller:	127	Welldepth:	200
Waterlevel:	150	Casingtype:	PLASTIC OR PVC
Casingdeep:	203	Casingwide:	5
Pumptype:	SUBMERSIBLE	Pumppower:	ELECTRIC MOTOR < 1 HP
Pumprate:	0	Testrate:	0
Drawdown:	15	Drilllog:	Not Reported

Lastname:	DRAKE,D	Firstname:	Not Reported
Company:	Not Reported		
Address:	1029 MANITOU		
City:	BOISE	State:	ID
Zipcode:	83706	Cancelled:	Not Reported

Driller:	127
Company:	SPUR CROSS DEVELOPMENT, INC.
Address:	38219 N. 3RD AVENUE DESERT HILLS, AZ 85027

H36
West
1/2 - 1 Mile
Lower

AZ WELLS **AZWR517616**

Registryid:	517616	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SW
Acre40:	SW	Acre10:	NE
Utmx:	414689.3	Utmy:	3743599.6
Welltype:	DOMESTIC STOCK EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	Not Reported
Driller:	127	Welldepth:	0
Waterlevel:	0	Casingtype:	Not Reported
Casingdeep:	0	Casingwide:	0
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drillog:	Not Reported
Lastname:	ALDER, JAMES & JANE,	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 762		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Y

Driller:	127
Company:	SPUR CROSS DEVELOPMENT, INC.
Address:	38219 N. 3RD AVENUE DESERT HILLS, AZ 85027

I37
WNW
1/2 - 1 Mile
Lower

AZ WELLS **AZWR538118**

Registryid:	538118	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SW
Acre40:	NW	Acre10:	NE
Utmx:	414692.8	Utmy:	3744000.1
Welltype:	DOMESTIC STOCK EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	02/17/1993 00:00:00
Driller:	127	Welldepth:	400
Waterlevel:	280	Casingtype:	PLASTIC OR PVC
Casingdeep:	0	Casingwide:	84
Pumptype:	SUBMERSIBLE	Pumppower:	ELECTRIC MOTOR 1 - 5 HP
Pumprate:	12	Testrate:	0
Drawdown:	0	Drilllog:	X
Lastname:	KICKBUSH, ROLAND,	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 2951		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported

Driller:	127
Company:	SPUR CROSS DEVELOPMENT, INC.
Address:	38219 N. 3RD AVENUE DESERT HILLS, AZ 85027

I38
West
1/2 - 1 Mile
Lower

AZ WELLS **AZWR804103**

Registryid:	804103	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SW
Acre40:	NW	Acre10:	Not Reported
Utmx:	414591.8	Utmy:	3743900.5
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	01/01/1968 00:00:00
Driller:	0	Welldepth:	0
Waterlevel:	50	Casingtype:	STEEL - PERFORATED OR SLOTTED CASING
Casingdeep:	600	Casingwide:	0
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drilllog:	Not Reported

Lastname:	MOSER, ALVIN & DONNA,	Firstname:	Not Reported
Company:	Not Reported		
Address:	7343 HORIZON DR EAST		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported AZ

I39
West
1/2 - 1 Mile
Lower

AZ WELLS **AZWR636350**

Registryid:	636350	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SW
Acre40:	NW	Acre10:	Not Reported
Utmx:	414591.8	Utmy:	3743900.5
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	Not Reported
Driller:	0	Welldepth:	0
Waterlevel:	0	Casingtype:	Not Reported
Casingdeep:	0	Casingwide:	0
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	15	Testrate:	15
Drawdown:	0	Drilllog:	Not Reported
Lastname:	PARISH,N F	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 2046		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported AZ

J40
SSE
1/2 - 1 Mile
Higher

FED USGS **334918111542801**

BASIC WELL DATA

Site Type:	Single well, other than collector or Ranney type		
Year Constructed:	1972	County:	Maricopa
Altitude:	2455.00 ft.	State:	Arizona
Well Depth:	385.00 ft.	Topographic Setting:	Not Reported
Depth to Water Table:	105.00 ft.	Prim. Use of Site:	Not Reported
Date Measured:	04011972	Prim. Use of Water:	Not Reported

Map ID Direction Distance Elevation	Database	EDR ID Number
H41 **West** **1/2 - 1 Mile** **Lower**	**AZ WELLS**	**AZWR800715**

Registryid:	800715	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SW
Acre40:	SW	Acre10:	Not Reported
Utmx:	414588.2	Utmy:	3743499.9
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	10/20/1979 00:00:00
Driller:	0	Welldepth:	200
Waterlevel:	65	Casingtype:	PLASTIC OR PVC
Casingdeep:	200	Casingwide:	5
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	20	Testrate:	20
Drawdown:	0	Drilllog:	Not Reported
Lastname:	HUNT,R O	Firstname:	Not Reported
Company:	Not Reported		
Address:	7343 E SCOPA TRAIL		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported AZ

H42 **West** **1/2 - 1 Mile** **Lower**	**FED USGS**	**334954111552401**

BASIC WELL DATA

Site Type:	Single well, other than collector or Ranney type		
Year Constructed:	1975	County:	Maricopa
Altitude:	2340.00 ft.	State:	Arizona
Well Depth:	Not Reported	Topographic Setting:	Alluvial or marine terrace
Depth to Water Table:	Not Reported	Prim. Use of Site:	Withdrawal of water
Date Measured:	Not Reported	Prim. Use of Water:	Domestic

K43 **West** **1/2 - 1 Mile** **Lower**	**AZ WELLS**	**AZWR540066**

Registryid:	540066	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SW
Acre40:	NW	Acre10:	SW
Utmx:	414490.9	Utmy:	3743800.8
Welltype:	DOMESTIC STOCK EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	08/04/1993 00:00:00
Driller:	35	Welldepth:	300
Waterlevel:	75	Casingtype:	STEEL - PERFORATED OR SLOTTED CASING
Casingdeep:	300	Casingwide:	7
Pumptype:	CENTRIFUGAL	Pumppower:	ELECTRIC MOTOR < 1 HP
Pumprate:	23	Testrate:	60
Drawdown:	0	Drillog:	X
Lastname:	BLOEHS, JAY,E	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 3133		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported

Driller:	35
Company:	CAMPBELL'S DRILLING, INC.
Address:	P.O. BOX 3019 WICKENBURG, AZ 85358

K44
West
1/2 - 1 Mile
Lower

AZ WELLS **AZWR639198**

Registryid:	639198	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SW
Acre40:	NW	Acre10:	SW
Utmx:	414490.9	Utmy:	3743800.8
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	Not Reported
Driller:	0	Welldepth:	0
Waterlevel:	0	Casingtype:	Not Reported
Casingdeep:	0	Casingwide:	0
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drillog:	Not Reported

Lastname:	YEE, BRIAN,	Firstname:	Not Reported
Company:	Not Reported		
Address:	7233 HORIZON DR EAST		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Y

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported AZ

K45
West
1/2 - 1 Mile
Lower

AZ WELLS **AZWR536365**

Registryid:	536365	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SW
Acre40:	NW	Acre10:	SW
Utmx:	414490.9	Utmy:	3743800.8
Welltype:	DOMESTIC STOCK EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	09/15/1992 00:00:00
Driller:	127	Welldepth:	360
Waterlevel:	260	Casingtype:	PLASTIC OR PVC
Casingdeep:	360	Casingwide:	6
Pumptype:	SUBMERSIBLE	Pumppower:	ELECTRIC MOTOR < 1 HP
Pumprate:	12	Testrate:	0
Drawdown:	0	Drilllog:	X
Lastname:	YEE, BRIAN,	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 2636		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported

Driller:	127
Company:	SPUR CROSS DEVELOPMENT, INC.
Address:	38219 N. 3RD AVENUE DESERT HILLS, AZ 85027

K46
West
1/2 - 1 Mile
Lower

AZ WELLS **AZWR523220**

Registryid:	523220	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SW
Acre40:	NW	Acre10:	SW
Utmx:	414490.9	Utmy:	3743800.8
Welltype:	DOMESTIC STOCK EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	06/14/1989 00:00:00
Driller:	355	Welldepth:	195
Waterlevel:	40	Casingtype:	STEEL - PERFORATED OR SLOTTED CASING
Casingdeep:	195	Casingwide:	8
Pumptype:	SUBMERSIBLE	Pumppower:	ELECTRIC MOTOR 1 - 5 HP
Pumprate:	35	Testrate:	35
Drawdown:	0	Drilllog:	X
Lastname:	MONACELLI, MARIO,	Firstname:	Not Reported
Company:	Not Reported		
Address:	601 W TONOPAH DR #4		
City:	PHOENIX	State:	AZ
Zipcode:	85027	Cancelled:	Not Reported

Driller:	355
Company:	BEEMAN BROTHERS DRILLING, INC.
Address:	44806 N. 14TH STREET NEW RIVER, AZ 85087

H47
West
1/2 - 1 Mile
Lower

AZ WELLS **AZWR513080**

Registryid:	513080	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SW
Acre40:	SW	Acre10:	NW
Utmx:	414489.1	Utmy:	3743600.6
Welltype:	DOMESTIC STOCK EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	12/30/1985 00:00:00
Driller:	127	Welldepth:	200
Waterlevel:	140	Casingtype:	PLASTIC OR PVC
Casingdeep:	200	Casingwide:	5
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drilllog:	X

Lastname:	CHOMICKE, FRANK,	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 1632		
City:	CAVE CREEK	State:	AZ
Zipcode:	85331	Cancelled:	Not Reported

Driller:	127
Company:	SPUR CROSS DEVELOPMENT, INC.
Address:	38219 N. 3RD AVENUE DESERT HILLS, AZ 85027

H48
West
1/2 - 1 Mile
Lower

AZ WELLS **AZWR085006**

Registryid:	085006	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SW
Acre40:	SW	Acre10:	NW
Utmx:	414489.1	Utmy:	3743600.6
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	Not Reported
Driller:	42	Welldepth:	0
Waterlevel:	0	Casingtype:	Not Reported
Casingdeep:	0	Casingwide:	0
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drillog:	Not Reported
Lastname:	DICKINSON,D	Firstname:	Not Reported
Company:	Not Reported		
Address:	BOX 1108		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Y

Driller:	42
Company:	COUNCILMAN ENTERPRISES INC.
Address:	Not Reported CAVE CREEK, AZ

J49
South
1/2 - 1 Mile
Higher

FED USGS **334914111543301**

BASIC WELL DATA

Site Type:	Single well, other than collector or Ranney type		
Year Constructed:	1972	County:	Maricopa
Altitude:	2470.00 ft.	State:	Arizona
Well Depth:	380.00 ft.	Topographic Setting:	Undulating
Depth to Water Table:	Not Reported	Prim. Use of Site:	Withdrawal of water
Date Measured:	Not Reported	Prim. Use of Water:	Public supply

Map ID Direction Distance Elevation		Database	EDR ID Number
I50 **WNW** **1/2 - 1 Mile** **Lower**		**AZ WELLS**	**AZWR638263**

Registryid:	638263	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SW
Acre40:	NW	Acre10:	NW
Utmx:	414492.8	Utmy:	3744001.1
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	01/01/1976 00:00:00
Driller:	0	Welldepth:	140
Waterlevel:	0	Casingtype:	Not Reported
Casingdeep:	0	Casingwide:	0
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	35	Testrate:	35
Drawdown:	0	Drilllog:	Not Reported
Lastname:	SUTER, RICHARD,M	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 5734		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported AZ

I51 **WNW** **1/2 - 1 Mile** **Lower**		**AZ WELLS**	**AZWR640368**

Registryid:	640368	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SW
Acre40:	NW	Acre10:	NW
Utmx:	414492.8	Utmy:	3744001.1
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported

Approved:	Not Reported	Installed:	04/14/1972 00:00:00
Driller:	0	Welldepth:	132
Waterlevel:	20	Casingtype:	OTHER - BLACK STEEL - IRON - SEAMLESS
Casingdeep:	0	Casingwide:	7
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	30	Testrate:	0
Drawdown:	0	Drilllog:	Not Reported
Lastname:	STEVENS, RODGER,W	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 266		
City:	CAVE CREEK	State:	AZ
Zipcode:	85331	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported AZ

L52
WSW
1/2 - 1 Mile
Lower

AZ WELLS AZWR544071

Registryid:	544071	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SW
Acre40:	SW	Acre10:	SW
Utmx:	414487.3	Utmy:	3743400.3
Welltype:	DOMESTIC STOCK EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	06/27/1994 00:00:00
Driller:	35	Welldepth:	200
Waterlevel:	100	Casingtype:	STEEL - PERFORATED OR SLOTTED CASING
Casingdeep:	200	Casingwide:	7
Pumptype:	SUBMERSIBLE	Pumppower:	ELECTRIC MOTOR 1 - 5 HP
Pumprate:	86	Testrate:	86
Drawdown:	0	Drilllog:	X
Lastname:	GRAINGER, PHILLIP,	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 883		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported

Driller:	35
Company:	CAMPBELL'S DRILLING, INC.
Address:	P.O. BOX 3019 WICKENBURG, AZ 85358

Map ID Direction Distance Elevation	Database	EDR ID Number
L53 **WSW** **1/2 - 1 Mile** **Lower**	**AZ WELLS**	**AZWR807351**

Registryid:	807351	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SW
Acre40:	SW	Acre10:	SW
Utmx:	414487.3	Utmy:	3743400.3
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	02/25/1980 00:00:00
Driller:	0	Welldepth:	200
Waterlevel:	125	Casingtype:	PLASTIC OR PVC
Casingdeep:	200	Casingwide:	5
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	15	Testrate:	0
Drawdown:	0	Drilllog:	Not Reported
Lastname:	BISCHOFF, JANE,C	Firstname:	Not Reported
Company:	Not Reported		
Address:	34505 N SCOTTSDALE		
City:	SCOTTSDALE	State:	AZ
Zipcode:	85262	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported AZ

L54 **WSW** **1/2 - 1 Mile** **Lower**	**AZ WELLS**	**AZWR533284**

Registryid:	533284	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SW
Acre40:	SW	Acre10:	SW
Utmx:	414487.3	Utmy:	3743400.3
Welltype:	DOMESTIC STOCK EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported

Approved:	Not Reported	Installed:	10/06/1991 00:00:00
Driller:	127	Welldepth:	200
Waterlevel:	100	Casingtype:	PLASTIC OR PVC
Casingdeep:	200	Casingwide:	8
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drilllog:	X
Lastname:	HUNT, W.D,	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 625		
City:	CAVE CREEK	State:	AZ
Zipcode:	85331	Cancelled:	Not Reported

Driller:	127
Company:	SPUR CROSS DEVELOPMENT, INC.
Address:	38219 N. 3RD AVENUE DESERT HILLS, AZ 85027

55
North
1/2 - 1 Mile
Lower

AZ WELLS **AZWR557173**

Registryid:	557173	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	23	Acre160:	SE
Acre40:	SW	Acre10:	SE
Utmx:	415500	Utmy:	3744997.9
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	04/25/1996 00:00:00
Driller:	239	Welldepth:	306
Waterlevel:	185	Casingtype:	STEEL - PERFORATED OR SLOTTED CASING
Casingdeep:	300	Casingwide:	7
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drilllog:	X
Lastname:	ACOSTA	Firstname:	JESSE J
Company:	Not Reported		
Address:	PO BOX 4268		
City:	CAVE CREEK	State:	AZ
Zipcode:	85327	Cancelled:	Not Reported

Driller:	239
Company:	DRILL-TECH, INC.
Address:	P.O. BOX 3568 CHINO VALLEY, AZ 86323

Map ID Direction Distance Elevation	Database	EDR ID Number
M56 **SE** **1/2 - 1 Mile** **Higher**	**AZ WELLS**	**AZWR604781**

Registryid:	604781	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	36	Acre160:	NW
Acre40:	SE	Acre10:	NE
Utmx:	416689.4	Utmy:	3742784.5
Welltype:	NON-EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	MUNICIPAL
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	03/15/1982 00:00:00
Driller:	0	Welldepth:	1091
Waterlevel:	191	Casingtype:	STEEL - PERFORATED OR SLOTTED CASING
Casingdeep:	1091	Casingwide:	16
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	575	Testrate:	575
Drawdown:	0	Drilllog:	Not Reported
Lastname:	CAREFREE WATER CO,	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 702		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported

Registryid:	604781	Pump1984:	385.4
Pump1985:	213.82	Pump1986:	320.99
Pump1987:	452.9	Pump1988:	529.3
Pump1989:	492.2	Pump1990:	442.82
Pump1991:	500.01	Pump1992:	480.85
Pump1993:	490.14	Pump1994:	508.17
Pump1995:	458.88	Pump1996:	490.16
Pump1997:	529.01	Pump1998:	479.16
Pump1999:	264.9	Pumptotal:	7296.43

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported AZ

J57 **SSE** **1/2 - 1 Mile** **Higher**	**AZ WELLS**	**AZWR503642**

Registryid:	503642	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	36	Acre160:	SW
Acre40:	NW	Acre10:	NW
Utmx:	416084	Utmy:	3742386.1
Welltype:	NON-EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	IRRIGATION
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	08/01/1982 00:00:00
Driller:	127	Welldepth:	900
Waterlevel:	141	Casingtype:	STEEL - PERFORATED OR SLOTTED CASING
Casingdeep:	360	Casingwide:	16
Pumptype:	SUBMERSIBLE	Pumppower:	ELECTRIC MOTOR 16 - 100 HP
Pumprate:	99	Testrate:	99
Drawdown:	160	Drilllog:	X
Lastname:	CAREFREE WTR CO INC,	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 7724		
City:	PHOENIX	State:	AZ
Zipcode:	85011	Cancelled:	Not Reported

Registryid:	503642	Pump1984:	26.6
Pump1985:	0	Pump1986:	0
Pump1987:	0	Pump1988:	0
Pump1989:	0	Pump1990:	0
Pump1991:	0	Pump1992:	0
Pump1993:	0	Pump1994:	0
Pump1995:	0	Pump1996:	0
Pump1997:	19.75	Pump1998:	0
Pump1999:	0	Pumptotal:	46.35

Driller:	127
Company:	SPUR CROSS DEVELOPMENT, INC.
Address:	38219 N. 3RD AVENUE DESERT HILLS, AZ 85027

J58
SSE
1/2 - 1 Mile
Higher

AZ WELLS **AZWR611876**

Registryid:	611876	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	36	Acre160:	SW
Acre40:	NW	Acre10:	NW
Utmx:	416084	Utmy:	3742386.1
Welltype:	NON-EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	IRRIGATION
Wateruse2:	Not Reported	Wateruse3:	Not Reported

Approved:	Not Reported	Installed:	03/03/1972 00:00:00
Driller:	0	Welldepth:	380
Waterlevel:	105	Casingtype:	STEEL - PERFORATED OR SLOTTED CASING
Casingdeep:	380	Casingwide:	16
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	225	Testrate:	0
Drawdown:	0	Drilllog:	Not Reported
Lastname:	CAREFREE WTR CO INC,	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 7724		
City:	PHOENIX	State:	AZ
Zipcode:	85011	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported
	AZ

M59
SE
1/2 - 1 Mile
Higher

FED USGS **334926111535801**

BASIC WELL DATA

Site Type:	Single well, other than collector or Ranney type		
Year Constructed:	1961	County:	Maricopa
Altitude:	2520.00 ft.	State:	Arizona
Well Depth:	1091.00 ft.	Topographic Setting:	Not Reported
Depth to Water Table:	130.00 ft.	Prim. Use of Site:	Withdrawal of water
Date Measured:	10011961	Prim. Use of Water:	Public supply

60
WNW
1/2 - 1 Mile
Lower

AZ WELLS **AZWR601779**

Registryid:	601779	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	NW
Acre40:	SW	Acre10:	NW
Utmx:	414496.4	Utmy:	3744401.6
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	01/01/1950 00:00:00
Driller:	0	Welldepth:	110
Waterlevel:	40	Casingtype:	PLASTIC OR PVC
Casingdeep:	90	Casingwide:	6
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	30	Testrate:	30
Drawdown:	0	Drilllog:	Not Reported

Lastname:	BLACK	Firstname:	JUDY A
Company:	Not Reported		
Address:	208 VIRGINIA AVE		
City:	ALEXANDRIA	State:	VA
Zipcode:	22302	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported
	AZ

L61
WSW
1/2 - 1 Mile
Lower

FED USGS **334946111553301**

BASIC WELL DATA

Site Type:	Single well, other than collector or Ranney type		
Year Constructed:	1918	County:	Maricopa
Altitude:	2310.00 ft.	State:	Arizona
Well Depth:	125.00 ft.	Topographic Setting:	Alluvial or marine terrace
Depth to Water Table:	Not Reported	Prim. Use of Site:	Unused
Date Measured:	Not Reported	Prim. Use of Water:	Not Reported

L62
WSW
1/2 - 1 Mile
Lower

FED USGS **334945111553301**

BASIC WELL DATA

Site Type:	Single well, other than collector or Ranney type		
Year Constructed:	Not Reported	County:	Maricopa
Altitude:	2310.00 ft.	State:	Arizona
Well Depth:	128.00 ft.	Topographic Setting:	Alluvial or marine terrace
Depth to Water Table:	30.06 ft.	Prim. Use of Site:	Withdrawal of water
Date Measured:	05081962	Prim. Use of Water:	Domestic

63
West
1/2 - 1 Mile
Lower

AZ WELLS **AZWR502299**

Registryid:	502299	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	27	Acre160:	SE
Acre40:	NE	Acre10:	NE
Utmx:	414292.3	Utmy:	3744002.4
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported

Approved:	Not Reported	Installed:	03/30/1982 00:00:00
Driller:	127	Welldepth:	260
Waterlevel:	0	Casingtype:	PLASTIC OR PVC
Casingdeep:	260	Casingwide:	8
Pumptype:	SUBMERSIBLE	Pumppower:	ELECTRIC MOTOR < 1 HP
Pumprate:	0	Testrate:	0
Drawdown:	0	Drilllog:	X
Lastname:	ASAKAWA,D	Firstname:	Not Reported
Company:	Not Reported		
Address:	1517 E DESERT PK LN		
City:	PHOENIX	State:	AZ
Zipcode:	85020	Cancelled:	Not Reported

Driller:	127
Company:	SPUR CROSS DEVELOPMENT, INC.
Address:	38219 N. 3RD AVENUE DESERT HILLS, AZ 85027

L64
WSW
1/2 - 1 Mile
Lower

AZ WELLS **AZWR639925**

Registryid:	639925	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	27	Acre160:	SE
Acre40:	SE	Acre10:	SE
Utmx:	414286.7	Utmy:	3743401.4
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	Not Reported
Driller:	0	Welldepth:	0
Waterlevel:	0	Casingtype:	Not Reported
Casingdeep:	0	Casingwide:	0
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	34	Testrate:	34
Drawdown:	0	Drilllog:	Not Reported
Lastname:	REESE ET AL,B A	Firstname:	Not Reported
Company:	Not Reported		
Address:	511 E CHEERY LYNN RD		
City:	PHOENIX	State:	AZ
Zipcode:	85012	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported AZ

Map ID Direction Distance Elevation	Database	EDR ID Number
65 **WSW** **1/2 - 1 Mile** **Lower**	**AZ WELLS**	**AZWR800833**

Registryid:	800833	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	34	Acre160:	NE
Acre40:	NE	Acre10:	NE
Utmx:	414285.1	Utmy:	3743200.9
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	IRRIGATION	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	01/01/1950 00:00:00
Driller:	0	Welldepth:	225
Waterlevel:	190	Casingtype:	Not Reported
Casingdeep:	200	Casingwide:	4
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	35	Testrate:	35
Drawdown:	0	Drilllog:	Not Reported
Lastname:	JEFFRESS,E B	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 982		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported AZ

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66 **West** **1/2 - 1 Mile** **Lower**	**AZ WELLS**	**AZWR803771**

Registryid:	803771	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	27	Acre160:	SE
Acre40:	SE	Acre10:	Not Reported
Utmx:	414187.4	Utmy:	3743502.3
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported

GEOCHECK®- PHYSICAL SETTING SOURCE MAP FINDINGS

Approved:	Not Reported	Installed:	Not Reported
Driller:	0	Welldepth:	0
Waterlevel:	0	Casingtype:	STEEL - PERFORATED OR SLOTTED CASING
Casingdeep:	0	Casingwide:	0
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drilllog:	Not Reported
Lastname:	PETERS, BERNICE,A	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 1816		
City:	CAVE CREEK	State:	AZ
Zipcode:	85331	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported
	AZ

GEOCHECK®- PHYSICAL SETTING SOURCE MAP FINDINGS
RADON

AREA RADON INFORMATION

Federal EPA Radon Zone for MARICOPA County: 2

Note: Zone 1 indoor average level > 4 pCi/L.
: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
: Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for MARICOPA COUNTY, AZ

Number of sites tested: 695

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	1.697 pCi/L	93%	7%	0%
Living Area - 2nd Floor	3.640 pCi/L	80%	20%	0%
Basement	2.242 pCi/L	79%	21%	0%

PHYSICAL SETTING SOURCE RECORDS SEARCHED

HYDROLOGIC INFORMATION

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 1999 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002 from the U.S. Fish and Wildlife Service.

HYDROGEOLOGIC INFORMATION

AQUIFLOW[R] Information System
Source: EDR proprietary database of groundwater flow information
EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit
Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database
The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the national Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

ADDITIONAL ENVIRONMENTAL RECORD SOURCES

FEDERAL WATER WELLS

PWS: Public Water Systems
Source: EPA/Office of Drinking Water
Telephone: 202-260-2805
Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data
Source: EPA/Office of Drinking Water
Telephone: 202-260-2805
Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: In November 1971 the United States Geological Survey (USGS) implemented a national water resource information tracking system. This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on more than 900,000 wells, springs, and other sources of groundwater.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

STATE RECORDS

Arizona Well Registration Database
Source: Department of Water Resources
Telephone: 602-771-1586
Contains information provided to ADWR's Operations Division by well drillers and/or owners.

RADON

Area Radon Information
Source: USGS
Telephone: 303-202-4210
The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones
Source: EPA
Telephone: 202-564-9370
Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

OTHER

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

EDR Radius Map with GeoCheck Inquiry Number 896955.3s

The EDR Radius Map
with GeoCheck®

Carefree Drainage Master Plan
JEF 52
Carefree, AZ 85377

Inquiry Number: 896955.3s

December 12, 2002

Environmental Data Resources, Inc.

The Source For Environmental Risk Management Data

3530 Post Road
Southport, Connecticut 06890

Nationwide Customer Service

Telephone: 1-800-352-0050
Fax: 1-800-231-6802
Internet: www.edrnet.com

FORM-ACP

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GEOCHECK ADDENDUM

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Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc. (EDR). The report meets the government records search requirements of ASTM Standard Practice for Environmental Site Assessments, E 1527-00. Search distances are per ASTM standard or custom distances requested by the user.

TARGET PROPERTY INFORMATION

ADDRESS

JEF 52
CAREFREE, AZ 85377

COORDINATES

Latitude (North):	33.835700 - 33˚ 50' 8.5"
Longitude (West):	111.906500 - 111˚ 54' 23.4"
Universal Tranverse Mercator:	Zone 12
UTM X (Meters):	416122.7
UTM Y (Meters):	3744114.5

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property:	2433111-G8 CAVE CREEK, AZ
Source:	USGS 7.5 min quad index

TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the ASTM E 1527-00 search radius around the target property for the following databases:

FEDERAL ASTM STANDARD

NPL..... National Priority List
Proposed NPL..... Proposed National Priority List Sites
CERCLIS..... Comprehensive Environmental Response, Compensation, and Liability Information System
CERC-NFRAP..... CERCLIS No Further Remedial Action Planned
CORRACTS..... Corrective Action Report
RCRIS-TSD..... Resource Conservation and Recovery Information System
RCRIS-LQG..... Resource Conservation and Recovery Information System
RCRIS-SQG..... Resource Conservation and Recovery Information System
ERNS..... Emergency Response Notification System

STATE ASTM STANDARD

SPL..... Superfund Program List
SHWS..... ZipAcids List
SWF/LF..... Directory of Solid Waste Facilities
LUST..... Leaking Underground Storage Tank Listing

EXECUTIVE SUMMARY

UST..... Underground Storage Tank Listing
AZ WQARF..... Water Quality Assurance Revolving Fund Sites

FEDERAL ASTM SUPPLEMENTAL

CONSENT..... Superfund (CERCLA) Consent Decrees
ROD..... Records Of Decision
Delisted NPL..... National Priority List Deletions
FINDS..... Facility Index System/Facility Identification Initiative Program Summary Report
HMIRS..... Hazardous Materials Information Reporting System
MLTS..... Material Licensing Tracking System
MINES..... Mines Master Index File
NPL Liens..... Federal Superfund Liens
PADS..... PCB Activity Database System
RAATS..... RCRA Administrative Action Tracking System
TRIS..... Toxic Chemical Release Inventory System
TSCA..... Toxic Substances Control Act
SSTS..... Section 7 Tracking Systems
FTTS..... FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

STATE OR LOCAL ASTM SUPPLEMENTAL

AST..... List of Aboveground Storage Tanks
AZ Spills..... Hazardous Material Logbook
AZ DOD..... Department of Defense Sites
WWFAC..... Waste Water Treatment Facilities
Aquifer..... Waste Water Treatment Facilities
Dry Wells..... Drywell Registration
AZ AIRS..... Arizona Airs Database

EDR PROPRIETARY HISTORICAL DATABASES

Coal Gas..... Former Manufactured Gas (Coal Gas) Sites

SURROUNDING SITES: SEARCH RESULTS

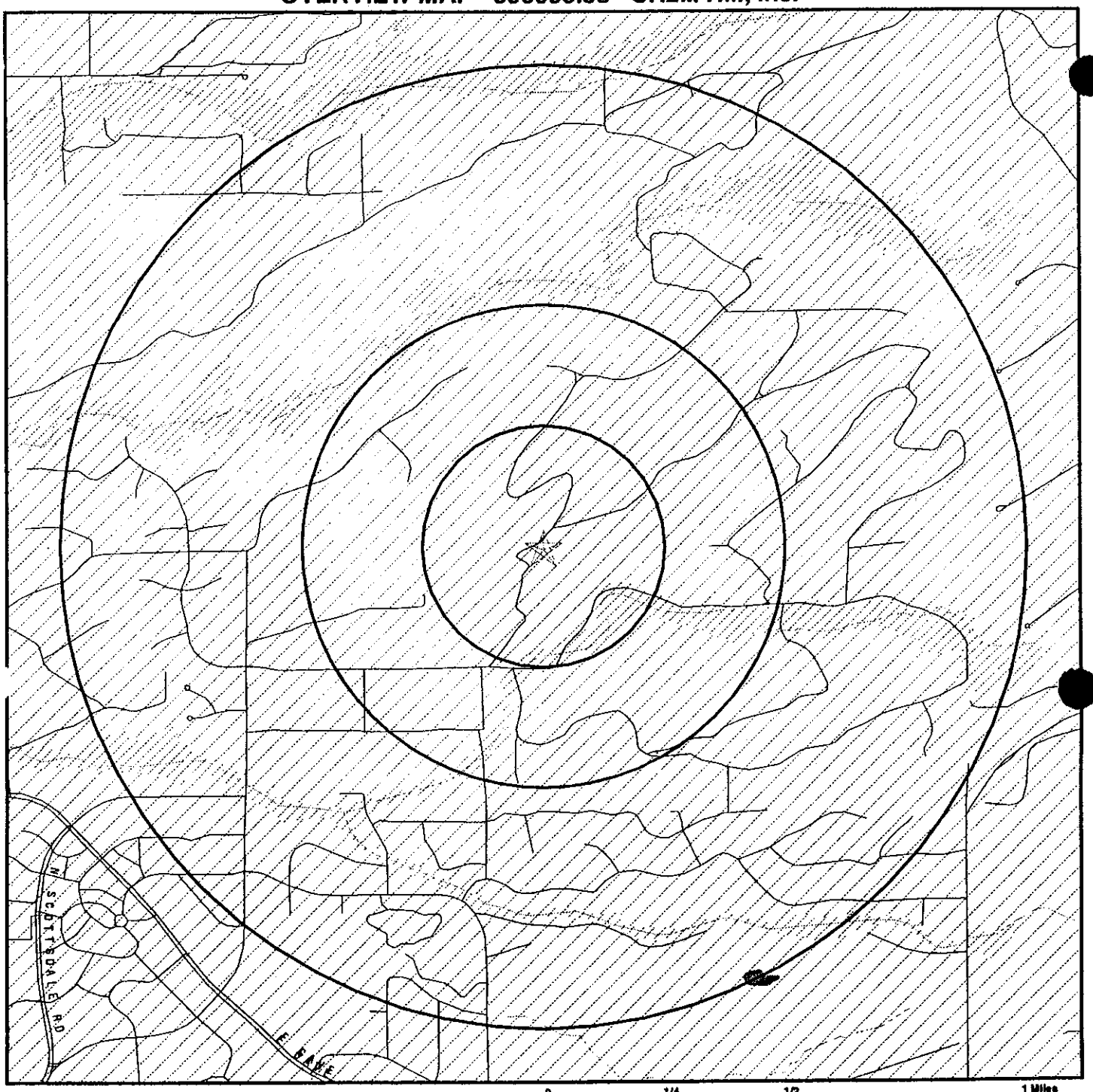
Surrounding sites were not identified.

EXECUTIVE SUMMARY

Due to poor or inadequate address information, the following sites were not mapped:

Site Name	Database(s)
CAVE CREEK LDFL	CERC-NFRAP
CAVE CREEK, TOWN OF WWTP	Aquifer, WWFAC
CAREFREE CLEANERS	RCRIS-SQG, FINDS

OVERVIEW MAP - 896955.3s - CH2M Hill, Inc.



- ☆ Target Property
- ▲ Sites at elevations higher than or equal to the target property
- ◆ Sites at elevations lower than the target property
- ▲ Coal Gasification Sites
- National Priority List Sites
- Landfill Sites
- Power transmission lines
- Oil & Gas pipelines
- 100-year flood zone
- 500-year flood zone
- Dept. of Defense Sites
- Water Quality Assurance Revolving Fund Areas

TARGET PROPERTY:	Carefree Drainage Master Plan	CUSTOMER:	CH2M Hill, Inc.
ADDRESS:	JEF 52	CONTACT:	Monique Chaisson
CITY/STATE/ZIP:	Carefree AZ 85377	INQUIRY #:	896955.3s
LAT/LONG:	33.8357 / 111.9065	DATE:	December 12, 2002 3:44 pm

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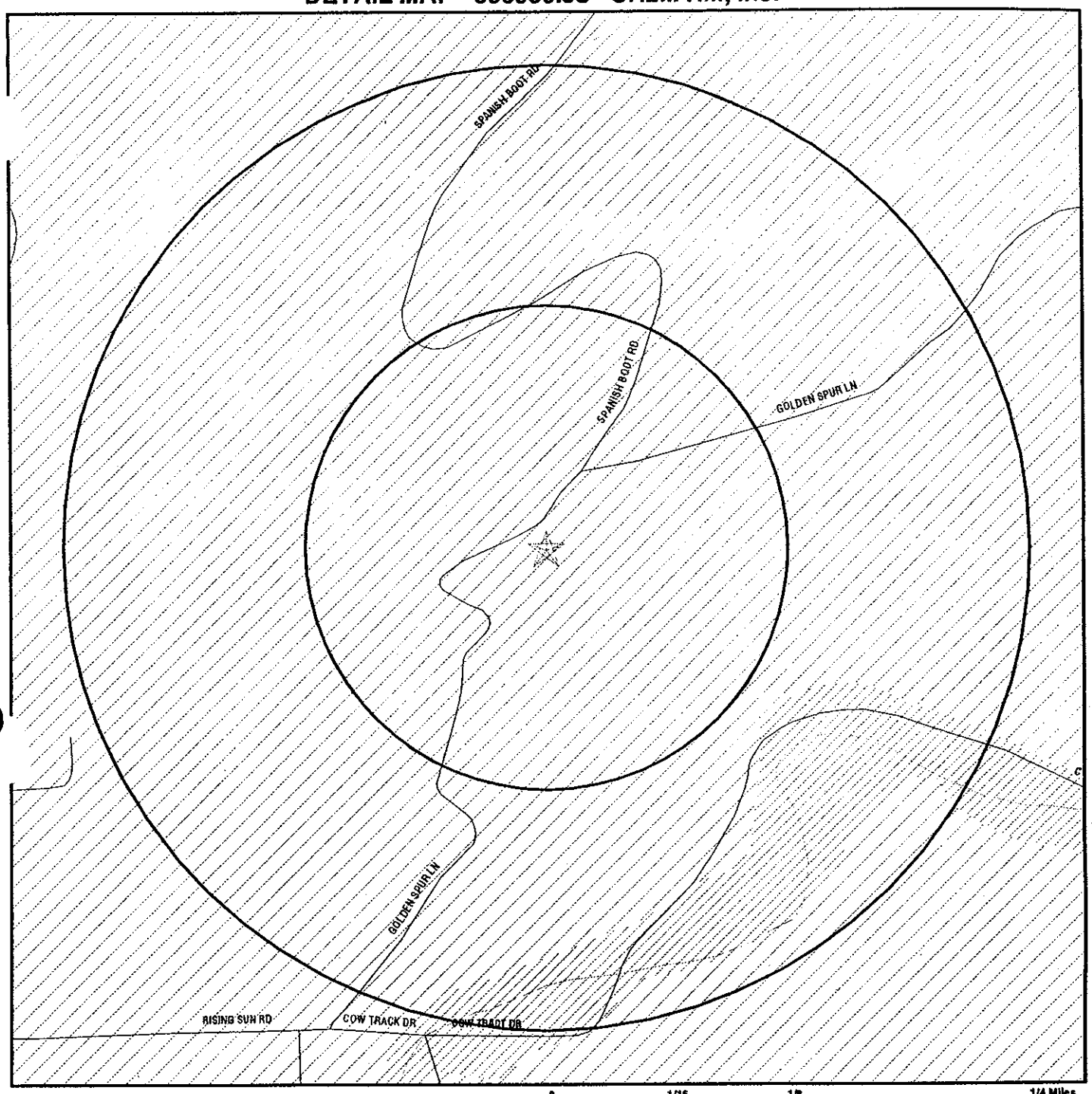
DETAIL MAP - 896955.3s - CH2M Hill, Inc.



0 1/16 1/8 1/4 Miles

- ☆ Target Property
- ▲ Sites at elevations higher than or equal to the target property
- ◆ Sites at elevations lower than the target property
- ▲ Coal Gasification Sites
- Sensitive Receptors
- National Priority List Sites
- Landfill Sites
- Power transmission lines
- Oil & Gas pipelines
- 100-year flood zone
- 500-year flood zone
- Dept. of Defense Sites
- Water Quality Assurance Revolving Fund Areas

TARGET PROPERTY:	Carefree Drainage Master Plan	CUSTOMER:	CH2M Hill, Inc.
ADDRESS:	JEF 52	CONTACT:	Monique Chaisson
CITY/STATE/ZIP:	Carefree AZ 85377	INQUIRY #:	896955.3s
LAT/LONG:	33.8357 / 111.9065	DATE:	December 12, 2002 3:44 pm

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MAP FINDINGS SUMMARY

Database	Target Property	Search Distance (Miles)	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
FEDERAL ASTM STANDARD								
NPL		1.000	0	0	0	0	NR	0
Proposed NPL		1.000	0	0	0	0	NR	0
CERCLIS		0.500	0	0	0	NR	NR	0
CERC-NFRAP		0.250	0	0	NR	NR	NR	0
CORRACTS		1.000	0	0	0	0	NR	0
RCRIS-TSD		0.500	0	0	0	NR	NR	0
RCRIS Lg. Quan. Gen.		0.250	0	0	NR	NR	NR	0
RCRIS Sm. Quan. Gen.		0.250	0	0	NR	NR	NR	0
ERNS		TP	NR	NR	NR	NR	NR	0
STATE ASTM STANDARD								
SPL		1.000	0	0	0	0	NR	0
State Haz. Waste		1.000	0	0	0	0	NR	0
State Landfill		0.500	0	0	0	NR	NR	0
LUST		0.500	0	0	0	NR	NR	0
UST		0.250	0	0	NR	NR	NR	0
AZ WQARF		1.000	0	0	0	0	NR	0
FEDERAL ASTM SUPPLEMENTAL								
CONSENT		1.000	0	0	0	0	NR	0
ROD		1.000	0	0	0	0	NR	0
Delisted NPL		1.000	0	0	0	0	NR	0
FINDS		TP	NR	NR	NR	NR	NR	0
HMIRS		TP	NR	NR	NR	NR	NR	0
MLTS		TP	NR	NR	NR	NR	NR	0
MINES		0.250	0	0	NR	NR	NR	0
NPL Liens		TP	NR	NR	NR	NR	NR	0
PADS		TP	NR	NR	NR	NR	NR	0
RAATS		TP	NR	NR	NR	NR	NR	0
TRIS		TP	NR	NR	NR	NR	NR	0
TSCA		TP	NR	NR	NR	NR	NR	0
SSTS		TP	NR	NR	NR	NR	NR	0
FTTS		TP	NR	NR	NR	NR	NR	0
STATE OR LOCAL ASTM SUPPLEMENTAL								
AST		TP	NR	NR	NR	NR	NR	0
AZ Spills		TP	NR	NR	NR	NR	NR	0
AZ DOD		0.500	0	0	0	NR	NR	0
WWFAC		0.500	0	0	0	NR	NR	0
Aquifer		TP	NR	NR	NR	NR	NR	0
Dry Wells		TP	NR	NR	NR	NR	NR	0
AZ AIRS		TP	NR	NR	NR	NR	NR	0
EDR PROPRIETARY HISTORICAL DATABASES								
Coal Gas		1.000	0	0	0	0	NR	0

MAP FINDINGS SUMMARY

Database	Target Property	Search Distance (Miles)	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted

AQUIFLOW - see EDR Physical Setting Source Addendum

TP = Target Property

NR = Not Requested at this Search Distance

* Sites may be listed in more than one database

Coal Gas Site Search: No site was found in a search of Real Property Scan's ENVIROHAZ database.

NO SITES FOUND

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
CAREFREE	1000202304	CAREFREE CLEANERS	36889 N TOM DARLINGTON DR	85377	RCRIS-SQG, FINDS
CAVE CREEK	1003878171	CAVE CREEK LDFL	1 1/2 MI W OF CAREFREE HWY	85331	CERC-NFRAP
CAVE CREEK	S102787860	CAVE CREEK, TOWN OF WWTP	5600 E. RANCHO MANANA BLV	85331	Aquifer, WWFAC

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Elapsed ASTM days: Provides confirmation that this EDR report meets or exceeds the 90-day updating requirement of the ASTM standard.

FEDERAL ASTM STANDARD RECORDS

NPL: National Priority List
Source: EPA
Telephone: N/A
National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 10/24/02
Date Made Active at EDR: 12/09/02
Database Release Frequency: Semi-Annually
Date of Data Arrival at EDR: 11/04/02
Elapsed ASTM days: 35
Date of Last EDR Contact: 11/04/02

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 3
Telephone 215-814-5418

EPA Region 4
Telephone 404-562-8033

EPA Region 6
Telephone: 214-655-6659

EPA Region 8
Telephone: 303-312-6774

Proposed NPL: Proposed National Priority List Sites
Source: EPA
Telephone: N/A

Date of Government Version: 10/24/02
Date Made Active at EDR: 12/09/02
Database Release Frequency: Semi-Annually
Date of Data Arrival at EDR: 11/04/02
Elapsed ASTM days: 35
Date of Last EDR Contact: 11/04/02

CERCLIS: Comprehensive Environmental Response, Compensation, and Liability Information System
Source: EPA
Telephone: 703-413-0223
CERCLIS contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). CERCLIS contains sites which are either proposed to or on the National Priorities List (NPL) and sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 08/15/02
Date Made Active at EDR: 10/28/02
Database Release Frequency: Quarterly
Date of Data Arrival at EDR: 09/23/02
Elapsed ASTM days: 35
Date of Last EDR Contact: 09/23/02

CERCLIS-NFRAP: CERCLIS No Further Remedial Action Planned
Source: EPA
Telephone: 703-413-0223
As of February 1995, CERCLIS sites designated "No Further Remedial Action Planned" (NFRAP) have been removed from CERCLIS. NFRAP sites may be sites where, following an initial investigation, no contamination was found, contamination was removed quickly without the need for the site to be placed on the NPL, or the contamination was not serious enough to require Federal Superfund action or NPL consideration. EPA has removed approximately 25,000 NFRAP sites to lift the unintended barriers to the redevelopment of these properties and has archived them as historical records so EPA does not needlessly repeat the investigations in the future. This policy change is part of the EPA's Brownfields Redevelopment Program to help cities, states, private investors and affected citizens to promote economic redevelopment of unproductive urban sites.

Date of Government Version: 09/15/02
Date Made Active at EDR: 10/28/02
Database Release Frequency: Quarterly
Date of Data Arrival at EDR: 10/03/02
Elapsed ASTM days: 25
Date of Last EDR Contact: 09/23/02

CORRACTS: Corrective Action Report
Source: EPA
Telephone: 800-424-9346
CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 05/02/02
Date Made Active at EDR: 07/15/02
Database Release Frequency: Semi-Annually
Date of Data Arrival at EDR: 05/06/02
Elapsed ASTM days: 70
Date of Last EDR Contact: 09/09/02

RCRIS: Resource Conservation and Recovery Information System
Source: EPA/NTIS
Telephone: 800-424-9346
Resource Conservation and Recovery Information System. RCRIS includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA).

Date of Government Version: 09/09/02
Date Made Active at EDR: 10/28/02
Database Release Frequency: Varies
Date of Data Arrival at EDR: 09/24/02
Elapsed ASTM days: 34
Date of Last EDR Contact: 09/24/02

ERNS: Emergency Response Notification System
Source: EPA/NTIS
Telephone: 202-260-2342
Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 12/31/01
Date Made Active at EDR: 07/15/02
Database Release Frequency: Varies
Date of Data Arrival at EDR: 07/02/02
Elapsed ASTM days: 13
Date of Last EDR Contact: 10/28/02

FEDERAL ASTM SUPPLEMENTAL RECORDS

BRS: Biennial Reporting System
Source: EPA/NTIS
Telephone: 800-424-9346
The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/99
Database Release Frequency: Biennially
Date of Last EDR Contact: 09/16/02
Date of Next Scheduled EDR Contact: 12/16/02

CONSENT: Superfund (CERCLA) Consent Decrees
Source: EPA Regional Offices
Telephone: Varies
Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: N/A
Database Release Frequency: Varies
Date of Last EDR Contact: N/A
Date of Next Scheduled EDR Contact: N/A

ROD: Records Of Decision
Source: EPA
Telephone: 703-416-0223
Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 12/21/01
Database Release Frequency: Annually

Date of Last EDR Contact: 10/07/02
Date of Next Scheduled EDR Contact: 01/06/03

DELISTED NPL: National Priority List Deletions
Source: EPA
Telephone: N/A
The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 10/18/02
Database Release Frequency: Quarterly

Date of Last EDR Contact: 11/04/02
Date of Next Scheduled EDR Contact: 02/03/03

FINDS: Facility Index System/Facility Identification Initiative Program Summary Report
Source: EPA
Telephone: N/A
Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 10/10/02
Database Release Frequency: Quarterly

Date of Last EDR Contact: 10/07/02
Date of Next Scheduled EDR Contact: 01/06/03

HMIRS: Hazardous Materials Information Reporting System
Source: U.S. Department of Transportation
Telephone: 202-366-4555
Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 07/31/02
Database Release Frequency: Annually

Date of Last EDR Contact: 10/21/02
Date of Next Scheduled EDR Contact: 01/20/03

MLTS: Material Licensing Tracking System
Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 10/21/02
Database Release Frequency: Quarterly

Date of Last EDR Contact: 10/08/02
Date of Next Scheduled EDR Contact: 01/06/03

MINES: Mines Master Index File
Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959

Date of Government Version: 09/10/02
Database Release Frequency: Semi-Annually

Date of Last EDR Contact: 09/30/02
Date of Next Scheduled EDR Contact: 12/30/02

NPL LIENS: Federal Superfund Liens
Source: EPA
Telephone: 205-564-4267
Federal Superfund Liens. Under the authority granted the USEPA by the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner receives notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/91
Database Release Frequency: No Update Planned
Date of Last EDR Contact: 11/25/02
Date of Next Scheduled EDR Contact: 02/24/03

PADS: PCB Activity Database System
Source: EPA
Telephone: 202-564-3887
PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 06/28/02
Database Release Frequency: Annually
Date of Last EDR Contact: 11/13/02
Date of Next Scheduled EDR Contact: 02/10/03

RAATS: RCRA Administrative Action Tracking System
Source: EPA
Telephone: 202-564-4104
RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/95
Database Release Frequency: No Update Planned
Date of Last EDR Contact: 09/10/02
Date of Next Scheduled EDR Contact: 12/09/02

TRIS: Toxic Chemical Release Inventory System
Source: EPA
Telephone: 202-260-1531
Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/00
Database Release Frequency: Annually
Date of Last EDR Contact: 09/24/02
Date of Next Scheduled EDR Contact: 12/23/02

TSCA: Toxic Substances Control Act
Source: EPA
Telephone: 202-260-5521
Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/98
Database Release Frequency: Every 4 Years
Date of Last EDR Contact: 09/09/02
Date of Next Scheduled EDR Contact: 12/09/02

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
Source: EPA
Telephone: 202-564-2501

Date of Government Version: 04/25/02
Database Release Frequency: Quarterly
Date of Last EDR Contact: 09/24/02
Date of Next Scheduled EDR Contact: 12/23/02

SSTS: Section 7 Tracking Systems
Source: EPA
Telephone: 202-564-5008
Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 12/31/00
Database Release Frequency: Annually
Date of Last EDR Contact: 10/22/02
Date of Next Scheduled EDR Contact: 01/20/03

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-564-2501
FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/25/02
Database Release Frequency: Quarterly
Date of Last EDR Contact: 09/24/02
Date of Next Scheduled EDR Contact: 12/23/02

STATE OF ARIZONA ASTM STANDARD RECORDS

SPL: Superfund Program List
Source: Dept. of Environmental Quality
Telephone: 602-771-4360
The list is representative of the sites and potential sites within the jurisdiction of the Superfund Program Section. It is comprised of the following elements: 1) Water Quality Assurance Revolving Fund Registry Sites; 2) Potential WQARF Registry sites; 3) NPL sites; and 4) Department of Defense sites requiring SPS oversight.

Date of Government Version: 07/15/02
Date Made Active at EDR: 10/04/02
Database Release Frequency: Semi-Annually
Date of Data Arrival at EDR: 09/03/02
Elapsed ASTM days: 31
Date of Last EDR Contact: 12/02/02

SHWS: ZipAcids List
Source: Department of Environmental Quality
Telephone: 602-771-4360
The ACIDS list consists of more than 750 locations subject to investigation under the State Water Quality Assurance Revolving Fund (WQARF) and Federal CERCLA programs. The list is no longer updated by the state.

Date of Government Version: 01/03/00
Date Made Active at EDR: 05/16/00
Database Release Frequency: No Update Planned
Date of Data Arrival at EDR: 04/11/00
Elapsed ASTM days: 35
Date of Last EDR Contact: 10/21/02

SWF/LF: Directory of Solid Waste Facilities
Source: Department of Environmental Quality
Telephone: 602-771-4132
Solid Waste Facilities/Landfill Sites. SWF/LF type records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. Depending on the state, these may be active or inactive facilities or open dumps that failed to meet RCRA Subtitle D Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 11/01/00
Date Made Active at EDR: 02/01/01
Database Release Frequency: Annually
Date of Data Arrival at EDR: 01/02/01
Elapsed ASTM days: 30
Date of Last EDR Contact: 11/15/02

LUST: Leaking Underground Storage Tank Listing
Source: Department of Environmental Quality
Telephone: 602-771-4345
Leaking Underground Storage Tank Incident Reports. LUST records contain an inventory of reported leaking underground storage tank incidents. Not all states maintain these records, and the information stored varies by state.

Date of Government Version: 10/30/02
Date Made Active at EDR: 11/25/02
Database Release Frequency: Semi-Annually
Date of Data Arrival at EDR: 11/12/02
Elapsed ASTM days: 13
Date of Last EDR Contact: 11/12/02

UST: Underground Storage Tank Listing
Source: Department of Environmental Quality
Telephone: 602-771-4345
Registered Underground Storage Tanks. UST's are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA) and must be registered with the state department responsible for administering the UST program. Available information varies by state program.

Date of Government Version: 02/06/02
Date Made Active at EDR: 04/01/02
Database Release Frequency: Annually

Date of Data Arrival at EDR: 03/11/02
Elapsed ASTM days: 21
Date of Last EDR Contact: 11/12/02

WQARF: Water Quality Assurance Revolving Fund Sites
Source: Department of Environmental Quality
Telephone: 602-771-4360
Sites which may have an actual or potential impact upon the waters of the state, cause by hazardous substances. The WQARF program provides matching funds to political subdivisions and other state agencies for clean-up activities.

Date of Government Version: 03/08/02
Date Made Active at EDR: 04/30/02
Database Release Frequency: Annually

Date of Data Arrival at EDR: 03/25/02
Elapsed ASTM days: 36
Date of Last EDR Contact: 09/25/02

STATE OF ARIZONA ASTM SUPPLEMENTAL RECORDS

AST: List of Aboveground Storage Tanks
Source: Dept. of Building & Fire Safety
Telephone: 602-364-1003
Aboveground storage tanks that the Dept. of Building & Fire Safety have permitted.

Date of Government Version: 12/31/00
Database Release Frequency: Annually

Date of Last EDR Contact: 10/25/02
Date of Next Scheduled EDR Contact: 01/13/03

SPILLS: Hazardous Material Logbook
Source: Department of Environmental Quality
Telephone: 602-771-4153
ADEQ Emergency Response Unit. The ADEQ Emergency Response Unit documents chemical spills and incidents which are referred to the Unit. The logbook information for 1984-1986 consists of handwritten entries of the date, incident number and name of facility if known. Current logbooks are computerized and can be sorted by date, incident number, name, city (zip codes are not included), county, chemical and quantity.

Date of Government Version: 06/30/00
Database Release Frequency: Semi-Annually

Date of Last EDR Contact: 09/30/00
Date of Next Scheduled EDR Contact: 12/30/02

DOD: Department of Defense Sites
Source: Department of Environmental Quality
Telephone: 602-771-4360
These sites are federal facilities that are either being assessed for potential contamination, or have active remediation taking place on them.

Date of Government Version: 03/08/02
Database Release Frequency: Annually

Date of Last EDR Contact: 09/25/02
Date of Next Scheduled EDR Contact: 12/23/02

WWFAC: Waste Water Treatment Facilities
Source: Department of Environmental Quality
Telephone: 602-771-4623
Statewide list of waste water treatment facilities.

Date of Government Version: 12/12/00
Database Release Frequency: Varies

Date of Last EDR Contact: 11/25/02
Date of Next Scheduled EDR Contact: 02/24/03

AQUIFER: Waste Water Treatment Facilities
Source: Department of Environmental Quality
Telephone: 602-771-4623
Waste Water Treatment Facilities with APP (Aquifer Protection Permits.)

Date of Government Version: 11/01/01
Database Release Frequency: Semi-Annually

Date of Last EDR Contact: 10/28/02
Date of Next Scheduled EDR Contact: 01/27/03

DRY WELLS: Drywell Registration
Source: Department of Environmental Quality
Telephone: 602-771-4686
A drywell is a bored, drilled, or driven shaft or hole whose depth is greater than its width and is designed and constructed specifically for the disposal of storm water.

Date of Government Version: 09/01/02
Database Release Frequency: Semi-Annually

Date of Last EDR Contact: 09/23/02
Date of Next Scheduled EDR Contact: 12/23/02

AZ AIRS: Arizona Airs Database
Source: Department of Environmental Quality
Telephone: 602-771-2344
Arizona major (has the potential to emit over 100 tons of criteria pollutant) and minor (below 100 tons) sources.

Date of Government Version: 05/31/02
Database Release Frequency: Semi-Annually

Date of Last EDR Contact: 11/04/02
Date of Next Scheduled EDR Contact: 02/03/03

EDR PROPRIETARY HISTORICAL DATABASES

Former Manufactured Gas (Coal Gas) Sites: The existence and location of Coal Gas sites is provided exclusively to EDR by Real Property Scan, Inc. ©Copyright 1993 Real Property Scan, Inc. For a technical description of the types of hazards which may be found at such sites, contact your EDR customer service representative.

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The information contained in this report has predominantly been obtained from publicly available sources produced by entities other than Real Property Scan. While reasonable steps have been taken to insure the accuracy of this report, Real Property Scan does not guarantee the accuracy of this report. *Any liability on the part of Real Property Scan is strictly limited to a refund* of the amount paid. No claim is made for the actual existence of toxins at any site. This report does not constitute a legal opinion.

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

Oil/Gas Pipelines/Electrical Transmission Lines: *This data was obtained* by EDR from the USGS in 1994. It is referred to by USGS as GeoData Digital Line Graphs from 1:100,000-Scale Maps. It was extracted from the transportation category including some oil, but primarily gas pipelines and electrical transmission lines.

Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 1999 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002 from the U.S. Fish and Wildlife Service.

STREET AND ADDRESS INFORMATION

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GEOCHECK®- PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

CAREFREE DRAINAGE MASTER PLAN
JEF 52
CAREFREE, AZ 85377

TARGET PROPERTY COORDINATES

Latitude (North):	33.835701 - 33˚ 50' 8.5"
Longitude (West):	111.906502 - 111˚ 54' 23.4"
Universal Tranverse Mercator:	Zone 12
UTM X (Meters):	416122.7
UTM Y (Meters):	3744114.5

EDR's GeoCheck Physical Setting Source Addendum has been developed to assist the environmental professional with the collection of physical setting source information in accordance with ASTM 1527-00, Section 7.2.3. Section 7.2.3 requires that a current USGS 7.5 Minute Topographic Map (or equivalent, such as the USGS Digital Elevation Model) be reviewed. It also requires that one or more additional physical setting sources be sought when (1) conditions have been identified in which hazardous substances or petroleum products are likely to migrate to or from the property, and (2) more information than is provided in the current USGS 7.5 Minute Topographic Map (or equivalent) is generally obtained, pursuant to local good commercial or customary practice, to assess the impact of migration of recognized environmental conditions in connection with the property. Such additional physical setting sources generally include information about the topographic, hydrologic, hydrogeologic, and geologic characteristics of a site, and wells in the area.

Assessment of the impact of contaminant migration generally has two principle investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata. EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

TOPOGRAPHIC INFORMATION

Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

USGS TOPOGRAPHIC MAP ASSOCIATED WITH THIS SITE

Target Property: 2433111-G8 CAVE CREEK, AZ
Source: USGS 7.5 min quad index

GENERAL TOPOGRAPHIC GRADIENT AT TARGET PROPERTY

Target Property: General WSW

Source: General Topographic Gradient has been determined from the USGS 1 Degree Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

Target Property County	FEMA Flood Electronic Data
MARICOPA, AZ	YES - refer to the Overview Map and Detail Map

Flood Plain Panel at Target Property: 04013C0809G

Additional Panels in search area: 04013C0807G
04013C0806G
04013C0808G

NATIONAL WETLAND INVENTORY

NWI Quad at Target Property	NWI Electronic Data Coverage
NOT AVAILABLE	Not Available

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Site-Specific Hydrogeological Data*:

Search Radius:	2.0 miles
Status:	Not found

AQUIFLOW®

Search Radius: 2.000 Miles.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

MAP ID	LOCATION FROM TP	GENERAL DIRECTION GROUNDWATER FLOW
Not Reported		

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

Era:	Cenozoic
System:	Quaternary
Series:	Quaternary
Code:	Q *(decoded above as Era, System & Series)*

GEOLOGIC AGE IDENTIFICATION

Category: Stratifed Sequence

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps. The following information is based on Soil Conservation Service STATSGO data.

* ©1996 Site-specific hydrogeological data gathered by CERCLIS Alerts, Inc., Bainbridge Island, WA. All rights reserved. All of the information and opinions presented are those of the cited EPA report(s), which were completed under a Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS) investigation.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Component Name: GRAN

Soil Surface Texture: very gravelly - sandy loam

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class: Well drained. Soils have intermediate water holding capacity. Depth to water table is more than 6 feet.

Hydric Status: Soil does not meet the requirements for a hydric soil.

Corrosion Potential - Uncoated Steel: HIGH

Depth to Bedrock Min: > 20 inches

Depth to Bedrock Max: > 40 inches

Soil Layer Information

	Boundary			Classification			
Layer	**Upper**	**Lower**	**Soil Texture Class**	**AASHTO Group**	**Unified Soil**	**Permeability Rate (in/hr)**	**Soil Reaction (pH)**
1	0 inches	1 inches	very gravelly - sandy loam	Granular materials (35 pct. or less passing No. 200), Stone Fragments, Gravel and Sand.	COURSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 6.00 Min: 2.00	Max: 8.40 Min: 7.40
2	1 inches	12 inches	very gravelly - sandy clay	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COURSE-GRAINED SOILS, Sands, Sands with fines, Clayey sand.	Max: 0.60 Min: 0.20	Max: 8.40 Min: 7.40
3	12 inches	36 inches	weathered bedrock	Not reported	Not reported	Max: 0.00 Min: 0.00	Max: 0.00 Min: 0.00
4	36 inches	40 inches	unweathered bedrock	Not reported	Not reported	Max: 0.00 Min: 0.00	Max: 0.00 Min: 0.00

OTHER SOIL TYPES IN AREA

Based on Soil Conservation Service STATSGO data, the following additional subordinant soil types may appear within the general area of target property.

Soil Surface Textures: unweathered bedrock
very gravelly - clay loam

Surficial Soil Types: unweathered bedrock
very gravelly - clay loam

Shallow Soil Types: No Other Soil Types

Deeper Soil Types: No Other Soil Types

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

ADDITIONAL ENVIRONMENTAL RECORD SOURCES

According to ASTM E 1527-00, Section 7.2.2, "one or more additional state or local sources of environmental records may be checked, in the discretion of the environmental professional, to enhance and supplement federal and state sources... Factors to consider in determining which local or additional state records, if any, should be checked include (1) whether they are reasonably ascertainable, (2) whether they are sufficiently useful, accurate, and complete in light of the objective of the records review (see 7.1.1), and (3) whether they are obtained, pursuant to local, good commercial or customary practice." One of the record sources listed in Section 7.2.2 is water well information. Water well information can be used to assist the environmental professional in assessing sources that may impact groundwater flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

WELL SEARCH DISTANCE INFORMATION

DATABASE	SEARCH DISTANCE (miles)
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 1 mile
State Database	1.000

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
B14	335004111545901	1/2 - 1 Mile West
F26	334930111543001	1/2 - 1 Mile South
G27	334943111545901	1/2 - 1 Mile SW
J33	335047111544501	1/2 - 1 Mile NNW
K38	334926111535801	1/2 - 1 Mile SSE
48	334918111542801	1/2 - 1 Mile South

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
F22	AZ0407015	1/2 - 1 Mile South

Note: PWS System location is not always the same as well location.

STATE DATABASE WELL INFORMATION

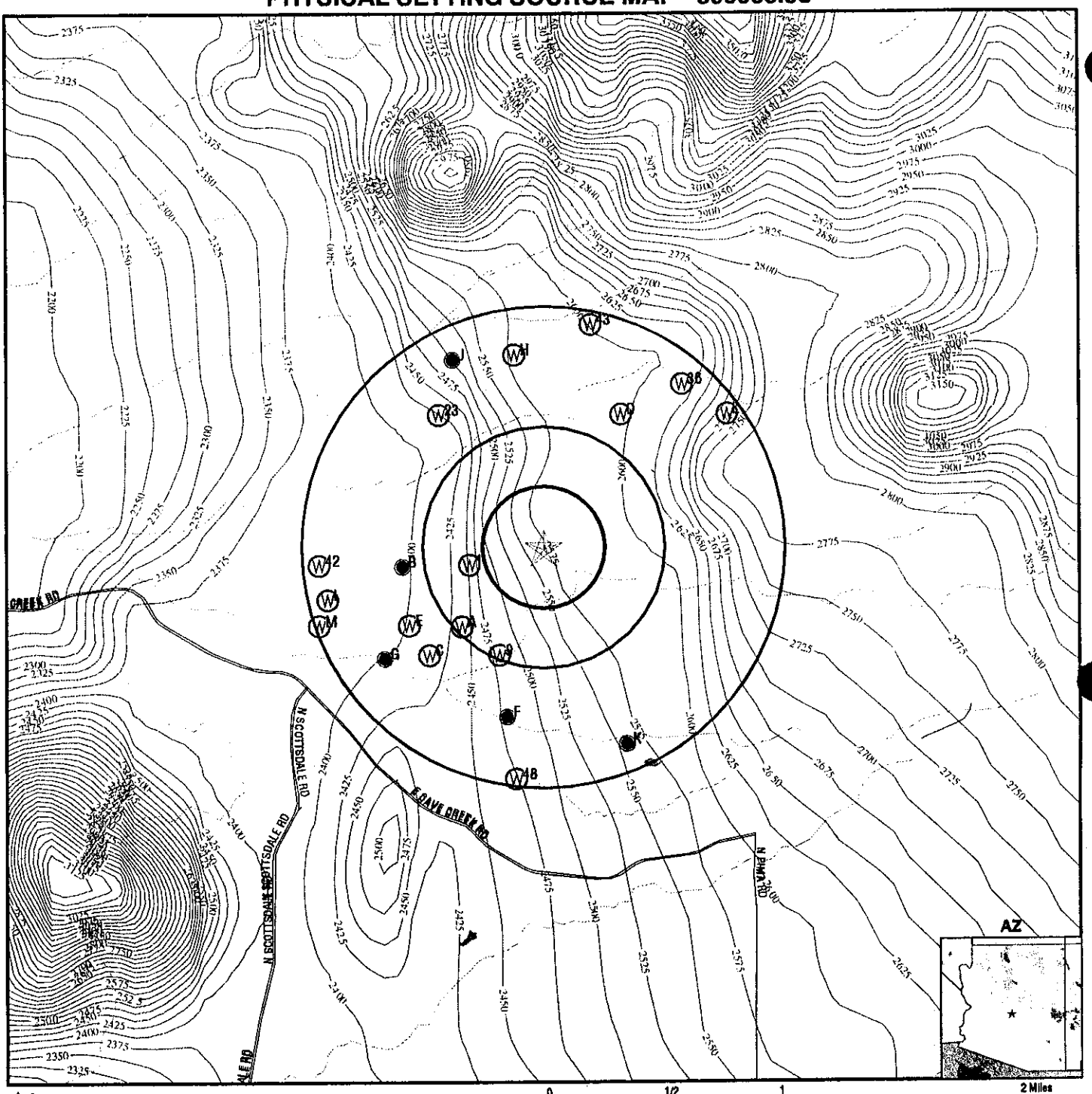
MAP ID	WELL ID	LOCATION FROM TP
1	AZWR638748	1/4 - 1/2 Mile WSW
A2	AZWR512174	1/4 - 1/2 Mile SW
A3	AZWR572237	1/4 - 1/2 Mile SW
A4	AZWR806754	1/4 - 1/2 Mile SW
A5	AZWR648169	1/4 - 1/2 Mile SW
A6	AZWR602366	1/4 - 1/2 Mile SW
A7	AZWR803770	1/4 - 1/2 Mile SSW
A8	AZWR803769	1/4 - 1/2 Mile SSW
9	AZWR801084	1/4 - 1/2 Mile SSW

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
A10	AZWR628046	1/2 - 1 Mile SW
A11	AZWR508721	1/2 - 1 Mile SW
A12	AZWR556858	1/2 - 1 Mile SW
B13	AZWR629982	1/2 - 1 Mile West
C15	AZWR800671	1/2 - 1 Mile SW
C16	AZWR514904	1/2 - 1 Mile SW
D17	AZWR542369	1/2 - 1 Mile NNE
D18	AZWR569905	1/2 - 1 Mile NNE
D19	AZWR584067	1/2 - 1 Mile NNE
E20	AZWR602835	1/2 - 1 Mile WSW
E21	AZWR632123	1/2 - 1 Mile WSW
23	AZWR557173	1/2 - 1 Mile NW
C24	AZWR604779	1/2 - 1 Mile SW
F25	AZWR604780	1/2 - 1 Mile SSW
H28	AZWR584053	1/2 - 1 Mile North
G29	AZWR803530	1/2 - 1 Mile WSW
G30	AZWR602820	1/2 - 1 Mile WSW
H31	AZWR577484	1/2 - 1 Mile NNW
I32	AZWR638233	1/2 - 1 Mile WSW
J34	AZWR640447	1/2 - 1 Mile NNW
K35	AZWR604781	1/2 - 1 Mile SSE
36	AZWR567962	1/2 - 1 Mile NE
L37	AZWR573912	1/2 - 1 Mile NE
I39	AZWR803838	1/2 - 1 Mile WSW
I40	AZWR640595	1/2 - 1 Mile WSW
J41	AZWR801059	1/2 - 1 Mile NNW
42	AZWR538118	1/2 - 1 Mile West
43	AZWR565893	1/2 - 1 Mile NNE
I44	AZWR524910	1/2 - 1 Mile WSW
I45	AZWR525029	1/2 - 1 Mile WSW
I46	AZWR633667	1/2 - 1 Mile WSW
I47	AZWR640371	1/2 - 1 Mile WSW
M49	AZWR527022	1/2 - 1 Mile WSW
M50	AZWR537088	1/2 - 1 Mile WSW
M51	AZWR085289	1/2 - 1 Mile WSW
M52	AZWR517616	1/2 - 1 Mile WSW
L53	AZWR542918	1/2 - 1 Mile NE

PHYSICAL SETTING SOURCE MAP - 896955.3s



County Boundary
Major Roads
Contour Lines
Water Wells
Public Water Supply Wells
Groundwater Flow Direction
Indeterminate Groundwater Flow at Location
Groundwater Flow Varies at Location
Cluster of Multiple Icons
Earthquake epicenter, Richter 5 or greater
Closest Hydrogeological Data

TARGET PROPERTY:	Carefree Drainage Master Plan	CUSTOMER:	CH2M Hill, Inc.
ADDRESS:	JEF 52	CONTACT:	Monique Chaisson
CITY/STATE/ZIP:	Carefree AZ 85377	INQUIRY #:	896955.3s
LAT/LONG:	33.8357 / 111.9065	DATE:	December 12, 2002 3:44 pm

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Map ID Direction Distance Elevation	Database	EDR ID Number
1 **WSW** **1/4 - 1/2 Mile** **Lower**	**AZ WELLS**	**AZWR638748**

Registryid:	638748	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SE
Acre40:	NE	Acre10:	NW
Utmx:	415692.8	Utmy:	3743995.5
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	IRRIGATION	Wateruse3:	STOCK
Approved:	Not Reported	Installed:	01/01/1972 00:00:00
Driller:	0	Welldepth:	0
Waterlevel:	0	Casingtype:	STEEL - PERFORATED OR SLOTTED CASING
Casingdeep:	0	Casingwide:	6
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drilllog:	Not Reported
Lastname:	CLEM II,S E	Firstname:	Not Reported
Company:	Not Reported		
Address:	7838 HORIZON DR		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported AZ

A2 **SW** **1/4 - 1/2 Mile** **Lower**	**AZ WELLS**	**AZWR512174**

Registryid:	512174	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SE
Acre40:	SE	Acre10:	NW
Utmx:	415689.5	Utmy:	3743594.9
Welltype:	DOMESTIC STOCK EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported

Approved:	Not Reported	Installed:	08/27/1985 00:00:00
Driller:	126	Welldepth:	300
Waterlevel:	200	Casingtype:	PLASTIC OR PVC
Casingdeep:	300	Casingwide:	8
Pumptype:	SUBMERSIBLE	Pumppower:	ELECTRIC MOTOR 1 - 5 HP
Pumprate:	33	Testrate:	40
Drawdown:	0	Drilllog:	X
Lastname:	TEMPO WEST INC,	Firstname:	Not Reported
Company:	Not Reported		
Address:	7895 E ACOMA DR #110		
City:	SCOTTSDALE	State:	AZ
Zipcode:	85260	Cancelled:	Not Reported

Driller:	126
Company:	SOIL SAMPLING SERVICE, INC.
Address:	P.O. BOX 710 PUYALLUP, WA 98371

A3
SW
1/4 - 1/2 Mile
Lower

AZ WELLS AZWR572237

Registryid:	572237	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SE
Acre40:	SE	Acre10:	NW
Utmx:	415689.5	Utmy:	3743594.9
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	04/02/1999 00:00:00	Installed:	Not Reported
Driller:	141	Welldepth:	0
Waterlevel:	0	Casingtype:	Not Reported
Casingdeep:	0	Casingwide:	0
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drilllog:	Not Reported
Lastname:	JONES	Firstname:	ROBERT W
Company:	Not Reported		
Address:	14002 N 49TH AVE #1062		
City:	GLENDALE	State:	AZ
Zipcode:	85306	Cancelled:	Y

Driller:	141
Company:	UNIVERSAL DRILLING, INC.
Address:	P.O. BOX 1027 WICKENBURG, AZ 85358

Map ID Direction Distance Elevation	Database	EDR ID Number
A4 **SW** **1/4 - 1/2 Mile** **Lower**	**AZ WELLS**	**AZWR806754**

Registryid:	806754	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SE
Acre40:	Not Reported	Acre10:	Not Reported
Utmx:	415590.2	Utmy:	3743695.5
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	12/31/1979 00:00:00
Driller:	0	Welldepth:	0
Waterlevel:	0	Casingtype:	Not Reported
Casingdeep:	0	Casingwide:	0
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drilllog:	Not Reported
Lastname:	NICKOLSON, WILLIAM,J	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 5335		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported AZ

A5 **SW** **1/4 - 1/2 Mile** **Lower**	**AZ WELLS**	**AZWR648169**

Registryid:	648169	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SE
Acre40:	Not Reported	Acre10:	Not Reported
Utmx:	415590.2	Utmy:	3743695.5
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported

Approved:	Not Reported	Installed:	01/01/1957 00:00:00
Driller:	0	Welldepth:	250
Waterlevel:	225	Casingtype:	OTHER - BLACK STEEL - IRON - SEAMLESS
Casingdeep:	0	Casingwide:	4
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	1	Testrate:	1
Drawdown:	0	Drilllog:	Not Reported
Lastname:	MC CLLWAIN,R	Firstname:	Not Reported
Company:	Not Reported		
Address:	BOX 2002		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported AZ

A6
SW
1/4 - 1/2 Mile
Lower

AZ WELLS **AZWR602366**

Registryid:	602366	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SE
Acre40:	Not Reported	Acre10:	Not Reported
Utmx:	415590.2	Utmy:	3743695.5
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	01/01/1972 00:00:00
Driller:	0	Welldepth:	650
Waterlevel:	0	Casingtype:	Not Reported
Casingdeep:	0	Casingwide:	0
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	30	Testrate:	30
Drawdown:	0	Drilllog:	Not Reported
Lastname:	GALLOWAY,H R	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 2383		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported AZ

Map ID Direction Distance Elevation		Database	EDR ID Number
A7 **SSW** **1/4 - 1/2 Mile** **Lower**		**AZ WELLS**	**AZWR803770**

Registryid:	803770	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SE
Acre40:	SE	Acre10:	Not Reported
Utmx:	415788.6	Utmy:	3743494.4
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	Not Reported
Driller:	0	Welldepth:	0
Waterlevel:	0	Casingtype:	STEEL - PERFORATED OR SLOTTED CASING
Casingdeep:	0	Casingwide:	0
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drilllog:	Not Reported
Lastname:	PETERS, BERNICE,A	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 1816		
City:	CAVE CREEK	State:	AZ
Zipcode:	85331	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported AZ

A8 **SSW** **1/4 - 1/2 Mile** **Lower**		**AZ WELLS**	**AZWR803769**

Registryid:	803769	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SE
Acre40:	SE	Acre10:	Not Reported
Utmx:	415788.6	Utmy:	3743494.4
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported

Approved:	Not Reported	Installed:	Not Reported
Driller:	0	Welldepth:	0
Waterlevel:	0	Casingtype:	STEEL - PERFORATED OR SLOTTED CASING
Casingdeep:	0	Casingwide:	0
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drilllog:	Not Reported
Lastname:	PETERS, BERNICE,A	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 1816		
City:	CAVE CREEK	State:	AZ
Zipcode:	85331	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported
	AZ

9
SSW
1/4 - 1/2 Mile
Lower

AZ WELLS **AZWR801084**

Registryid:	801084	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SE
Acre40:	SE	Acre10:	SE
Utmx:	415887.8	Utmy:	3743393.8
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	01/30/1962 00:00:00
Driller:	0	Welldepth:	265
Waterlevel:	265	Casingtype:	OTHER - BLACK STEEL - IRON - SEAMLESS
Casingdeep:	225	Casingwide:	6
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	34	Testrate:	34
Drawdown:	0	Drilllog:	Not Reported
Lastname:	GENTLEMAN COLONEL,A W	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 1023		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported
	AZ

Map ID Direction Distance Elevation	Database	EDR ID Number
A10 **SW** **1/2 - 1 Mile** **Lower**	**AZ WELLS**	**AZWR628046**

Registryid:	628046	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SE
Acre40:	SW	Acre10:	NE
Utmx:	415489.4	Utmy:	3743595.9
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	01/01/1973 00:00:00
Driller:	0	Welldepth:	0
Waterlevel:	0	Casingtype:	Not Reported
Casingdeep:	0	Casingwide:	0
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drillog:	Not Reported
Lastname:	DESZENDEFFY,R	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 556		
City:	LINCOLN PARK	State:	NJ
Zipcode:	07035	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported AZ

A11 **SW** **1/2 - 1 Mile** **Lower**	**AZ WELLS**	**AZWR508721**

Registryid:	508721	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SE
Acre40:	SW	Acre10:	NE
Utmx:	415489.4	Utmy:	3743595.9
Welltype:	DOMESTIC STOCK EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported

Approved:	Not Reported	Installed:	02/21/1985 00:00:00
Driller:	127	Welldepth:	290
Waterlevel:	200	Casingtype:	PLASTIC OR PVC
Casingdeep:	280	Casingwide:	8
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drilllog:	X
Lastname:	BOHANNAN JR,B	Firstname:	Not Reported
Company:	Not Reported		
Address:	7000 E BERNEIL DR		
City:	SCOTTSDALE	State:	AZ
Zipcode:	85253	Cancelled:	Not Reported

Driller:	127
Company:	SPUR CROSS DEVELOPMENT, INC.
Address:	38219 N. 3RD AVENUE DESERT HILLS, AZ 85027

A12
SW
1/2 - 1 Mile
Lower

AZ WELLS **AZWR556858**

Registryid:	556858	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SE
Acre40:	SE	Acre10:	SW
Utmx:	415687.8	Utmy:	3743394.7
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	03/03/1997 00:00:00
Driller:	127	Welldepth:	300
Waterlevel:	180	Casingtype:	PLASTIC OR PVC
Casingdeep:	300	Casingwide:	8
Pumptype:	SUBMERSIBLE	Pumppower:	ELECTRIC MOTOR 1 - 5 HP
Pumprate:	12	Testrate:	0
Drawdown:	0	Drilllog:	X
Lastname:	PAYNE, THOMAS,W	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 9878		
City:	ASPEN	State:	CO
Zipcode:	81611	Cancelled:	Not Reported

Driller:	127
Company:	SPUR CROSS DEVELOPMENT, INC.
Address:	38219 N. 3RD AVENUE DESERT HILLS, AZ 85027

Map ID Direction Distance Elevation	Database	EDR ID Number
B13 **West** **1/2 - 1 Mile** **Lower**	**AZ WELLS**	**AZWR629982**

Registryid:	629982	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SE
Acre40:	NW	Acre10:	NW
Utmx:	415292.8	Utmy:	3743997.3
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	01/01/1974 00:00:00
Driller:	0	Welldepth:	300
Waterlevel:	0	Casingtype:	STEEL - PERFORATED OR SLOTTED CASING
Casingdeep:	300	Casingwide:	6
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drilllog:	Not Reported
Lastname:	MALFETTI, JAMES,L	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 5327		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported AZ

B14 **West** **1/2 - 1 Mile** **Lower**	**FED USGS**	**335004111545901**

BASIC WELL DATA

Site Type:	Single well, other than collector or Ranney type		
Year Constructed:	1975	County:	Maricopa
Altitude:	2400.00 ft.	State:	Arizona
Well Depth:	305.00 ft.	Topographic Setting:	Hilltop
Depth to Water Table:	Not Reported	Prim. Use of Site:	Unused
Date Measured:	Not Reported	Prim. Use of Water:	Not Reported

C15 **SW** **1/2 - 1 Mile** **Lower**	**AZ WELLS**	**AZWR800671**

Registryid:	800671	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SE
Acre40:	SW	Acre10:	SE
Utmx:	415487.8	Utmy:	3743395.6
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	STOCK	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	Not Reported
Driller:	0	Welldepth:	0
Waterlevel:	0	Casingtype:	Not Reported
Casingdeep:	0	Casingwide:	0
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drilllog:	Not Reported
Lastname:	COMICK, MICHAEL,E	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 2793		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported
	AZ

C16
SW
1/2 - 1 Mile
Lower

AZ WELLS **AZWR514904**

Registryid:	514904	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SE
Acre40:	SW	Acre10:	SE
Utmx:	415487.8	Utmy:	3743395.6
Welltype:	DOMESTIC STOCK EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	07/25/1986 00:00:00
Driller:	127	Welldepth:	300
Waterlevel:	70	Casingtype:	PLASTIC OR PVC
Casingdeep:	300	Casingwide:	8
Pumptype:	SUBMERSIBLE	Pumppower:	ELECTRIC MOTOR 1 - 5 HP
Pumprate:	27	Testrate:	30
Drawdown:	0	Drilllog:	X

Lastname:	THREADGILL, SELMAN,	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 2303		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported

Driller:	127
Company:	SPUR CROSS DEVELOPMENT, INC.
Address:	38219 N. 3RD AVENUE DESERT HILLS, AZ 85027

D17
NNE
1/2 - 1 Mile
Higher

AZ WELLS **AZWR542369**

Registryid:	542369	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	24	Acre160:	SW
Acre40:	SE	Acre10:	SE
Utmx:	416711.6	Utmy:	3744990.8
Welltype:	DOMESTIC STOCK EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	02/12/1994 00:00:00
Driller:	355	Welldepth:	235
Waterlevel:	108	Casingtype:	STEEL - PERFORATED OR SLOTTED CASING
Casingdeep:	235	Casingwide:	8
Pumptype:	SUBMERSIBLE	Pumppower:	ELECTRIC MOTOR < 1 HP
Pumprate:	10	Testrate:	40
Drawdown:	20	Drilllog:	X
Lastname:	GREEN, RICK,	Firstname:	Not Reported
Company:	Not Reported		
Address:	7234 E CAVE CREEK		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported

Driller:	355
Company:	BEEMAN BROTHERS DRILLING, INC.
Address:	44806 N. 14TH STREET NEW RIVER, AZ 85087

D18
NNE
1/2 - 1 Mile
Higher

AZ WELLS **AZWR569905**

Registryid:	569905	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	24	Acre160:	SW
Acre40:	SE	Acre10:	SE
Utmx:	416711.6	Utmy:	3744990.8
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	08/27/1998 00:00:00
Driller:	35	Welldepth:	226
Waterlevel:	166	Casingtype:	PLASTIC OR PVC
Casingdeep:	226	Casingwide:	8
Pumptype:	SUBMERSIBLE	Pumppower:	ELECTRIC MOTOR 1 - 5 HP
Pumprate:	18	Testrate:	25
Drawdown:	0	Drillog:	X
Lastname:	ABDO III	Firstname:	WILLIAM J
Company:	Not Reported		
Address:	15650 N 43RD ST		
City:	PHOENIX	State:	AZ
Zipcode:	85032	Cancelled:	Not Reported

Driller:	35
Company:	CAMPBELL'S DRILLING, INC.
Address:	P.O. BOX 3019 WICKENBURG, AZ 85358

D19
NNE
1/2 - 1 Mile
Higher

AZ WELLS **AZWR584067**

Registryid:	584067	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	24	Acre160:	SW
Acre40:	SE	Acre10:	SE
Utmx:	416711.6	Utmy:	3744990.8
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	11/14/2000 00:00:00	Installed:	Not Reported
Driller:	608	Welldepth:	0
Waterlevel:	0	Casingtype:	Not Reported
Casingdeep:	0	Casingwide:	0
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drillog:	Not Reported

Lastname:	FLOYD	Firstname:	DALEN
Company:	Not Reported		
Address:	PO BOX 2354		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported

Driller:	608
Company:	RAINBOW DRILLING
Address:	8005 W. PATRICK LANE PEORIA, AZ 85382

E20
WSW
1/2 - 1 Mile
Lower

AZ WELLS **AZWR602835**

Registryid:	602835	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SE
Acre40:	SW	Acre10:	NW
Utmx:	415289.4	Utmy:	3743596.8
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	IRRIGATION
Wateruse2:	DOMESTIC	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	01/30/1975 00:00:00
Driller:	0	Welldepth:	250
Waterlevel:	100	Casingtype:	STEEL - PERFORATED OR SLOTTED CASING
Casingdeep:	250	Casingwide:	8
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	35	Testrate:	35
Drawdown:	0	Drilllog:	Not Reported
Lastname:	BANE,J	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 1488		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported AZ

E21
WSW
1/2 - 1 Mile
Lower

AZ WELLS **AZWR632123**

Registryid:	*632123*	*Program:*	*55*
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SE
Acre40:	SW	Acre10:	NW
Utmx:	415289.4	Utmy:	3743596.8
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	08/15/1978 00:00:00
Driller:	0	Welldepth:	*250*
Waterlevel:	96	Casingtype:	STEEL - PERFORATED OR SLOTTED CASING
Casingdeep:	250	Casingwide:	6
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	20	Testrate:	20
Drawdown:	0	Drilllog:	Not Reported
Lastname:	STEIGERWALD,J	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 1026		
City:	CAREFREE	State:	AZ
Zipcode:	85977	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported AZ

F22
South
1/2 - 1 Mile
Lower

FRDS PWS **AZ0407015**

PWS ID:	AZ0407015	PWS Status:	Not Reported
Date Initiated:	Not Reported	Date Deactivated:	Not Reported
PWS Name:	CAREFREE WATER CO INC PO BOX 702 CAREFREE, AZ 85377		
Addressee / Facility:	System Owner/Responsible Party CAREFREE WATER CO INC P.O. BOX 7724 PHOENIX, AZ 85011		

Facility Latitude:	33 49 51	Facility Longitude:	111 55 00
Facility Latitude:	33 49 33	Facility Longitude:	111 54 29
Facility Latitude:	33 48 47	Facility Longitude:	111 52 50
Facility Latitude:	33 48 47	Facility Longitude:	111 53 24
Facility Latitude:	33 49 22	Facility Longitude:	111 53 59
City Served:	CAREFREE		
Treatment Class:	Untreated	Population:	2400

PWS currently has or had major violation(s) or enforcement: Yes

Violations information not reported.

ENFORCEMENT INFORMATION:

System Name:	CAREFREE WATER CO INC		
Violation Type:	Monitoring, Routine Minor (TCR)		
Contaminant:	COLIFORM (TCR)		
Compliance Period:	1998-01-01 - 1998-01-31	Analytical Value:	0000000.000000000
Violation ID:	98036146	Enforcement ID:	Not Reported
Enforcement Date:	Not Reported	Enf. Action:	Not Reported

23
NW
1/2 - 1 Mile
Lower

AZ WELLS **AZWR557173**

Registryid:	557173	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	23	Acre160:	SE
Acre40:	SW	Acre10:	SE
Utmx:	415500	Utmy:	3744997.9
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	04/25/1996 00:00:00
Driller:	239	Welldepth:	306
Waterlevel:	185	Casingtype:	STEEL - PERFORATED OR SLOTTED CASING
Casingdeep:	300	Casingwide:	7
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drilllog:	X
Lastname:	ACOSTA	Firstname:	JESSE J
Company:	Not Reported		
Address:	PO BOX 4268		
City:	CAVE CREEK	State:	AZ
Zipcode:	85327	Cancelled:	Not Reported

Driller:	239
Company:	DRILL-TECH, INC.
Address:	P.O. BOX 3568 CHINO VALLEY, AZ 86323

C24
SW
1/2 - 1 Mile
Lower

AZ WELLS **AZWR604779**

Registryid:	604779	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SE
Acre40:	SW	Acre10:	SW
Utmx:	415287.7	Utmy:	3743396.5
Welltype:	NON-EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	MUNICIPAL
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	01/01/1959 00:00:00
Driller:	0	Welldepth:	485
Waterlevel:	82	Casingtype:	STEEL - PERFORATED OR SLOTTED CASING
Casingdeep:	485	Casingwide:	16
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	140	Testrate:	140
Drawdown:	0	Drilllog:	Not Reported
Lastname:	CAREFREE WATER CO,	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 702		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported

Registryid:	604779	Pump1984:	159.1
Pump1985:	145.11	Pump1986:	153.06
Pump1987:	86.5	Pump1988:	53.76
Pump1989:	122.75	Pump1990:	134.77
Pump1991:	137.78	Pump1992:	121.36
Pump1993:	124.99	Pump1994:	117.27
Pump1995:	89.87	Pump1996:	83.75
Pump1997:	69.26	Pump1998:	79.56
Pump1999:	45.09	Pumptotal:	1792.16

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported AZ

F25
SSW
1/2 - 1 Mile
Lower

AZ WELLS **AZWR604780**

Registryid:	604780	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	35	Acre160:	NE
Acre40:	NE	Acre10:	SE
Utmx:	415885.9	Utmy:	3742991.5
Welltype:	NON-EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	MUNICIPAL
Wateruse2:	Not Reported	Wateruse3:	Not Reported

Approved:	Not Reported	Installed:	01/01/1961 00:00:00
Driller:	0	Welldepth:	535
Waterlevel:	132	Casingtype:	STEEL - PERFORATED OR SLOTTED CASING
Casingdeep:	535	Casingwide:	16
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	140	Testrate:	140
Drawdown:	0	Drilllog:	Not Reported
Lastname:	CAREFREE WATER CO,	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 702		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported

Registryid:	604780	Pump1984:	122.1
Pump1985:	137.84	Pump1986:	22.76
Pump1987:	.5	Pump1988:	.09
Pump1989:	20.66	Pump1990:	39.9
Pump1991:	21.4	Pump1992:	14.33
Pump1993:	9.54	Pump1994:	24.34
Pump1995:	36.77	Pump1996:	31.92
Pump1997:	27.93	Pump1998:	18.25
Pump1999:	11.88	Pumptotal:	540.27

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported AZ

F26
South
1/2 - 1 Mile
Lower

FED USGS **334930111543001**

BASIC WELL DATA

Site Type:	Single well, other than collector or Ranney type		
Year Constructed:	Not Reported	County:	Maricopa
Altitude:	2440.00 ft.	State:	Arizona
Well Depth:	535.00 ft.	Topographic Setting:	Not Reported
Depth to Water Table:	104.00 ft.	Prim. Use of Site:	Withdrawal of water
Date Measured:	04011969	Prim. Use of Water:	Public supply

G27
SW
1/2 - 1 Mile
Lower

FED USGS **334943111545901**

BASIC WELL DATA

Site Type:	Single well, other than collector or Ranney type		
Year Constructed:	1959	County:	Maricopa
Altitude:	2375.00 ft.	State:	Arizona
Well Depth:	485.00 ft.	Topographic Setting:	Not Reported
Depth to Water Table:	37.00 ft.	Prim. Use of Site:	Withdrawal of water
Date Measured:	02011959	Prim. Use of Water:	Public supply

Map ID Direction Distance Elevation	Database	EDR ID Number
H28 **North** **1/2 - 1 Mile** **Higher**	**AZ WELLS**	**AZWR584053**

Registryid:	584053	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	24	Acre160:	SW
Acre40:	NW	Acre10:	SW
Utmx:	416108.9	Utmy:	3745395.3
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	12/21/2000 00:00:00
Driller:	355	Welldepth:	400
Waterlevel:	235	Casingtype:	PLASTIC OR PVC
Casingdeep:	400	Casingwide:	5
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drilllog:	X
Lastname:	SCHUSTER	Firstname:	SCOTT
Company:	Not Reported		
Address:	PO BOX 2143		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported

Driller:	355
Company:	BEEMAN BROTHERS DRILLING, INC.
Address:	44806 N. 14TH STREET NEW RIVER, AZ 85087

G29 **WSW** **1/2 - 1 Mile** **Lower**	**AZ WELLS**	**AZWR803530**	

Registryid:	803530	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SW
Acre40:	SE	Acre10:	SE
Utmx:	415087.6	Utmy:	3743397.4
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported

Approved:	Not Reported	Installed:	01/01/1960 00:00:00
Driller:	0	Welldepth:	104
Waterlevel:	35	Casingtype:	OTHER - BLACK STEEL - IRON - SEAMLESS
Casingdeep:	80	Casingwide:	5
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	8	Testrate:	0
Drawdown:	0	Drilllog:	Not Reported
Lastname:	DUBAS, WALTER,J	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 914		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported AZ

G30
WSW
1/2 - 1 Mile
Lower

AZ WELLS **AZWR602820**

Registryid:	602820	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SW
Acre40:	SE	Acre10:	SE
Utmx:	415087.6	Utmy:	3743397.4
Welltype:	NON-EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	10/17/1979 00:00:00
Driller:	0	Welldepth:	265
Waterlevel:	40	Casingtype:	PLASTIC OR PVC
Casingdeep:	265	Casingwide:	5
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	45	Testrate:	45
Drawdown:	0	Drilllog:	Not Reported
Lastname:	PARKE,R E	Firstname:	Not Reported
Company:	Not Reported		
Address:	831 E MISSOURI		
City:	PHOENIX	State:	AZ
Zipcode:	85014	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported AZ

Map ID Direction Distance Elevation	Database	EDR ID Number
H31 **NNW** **1/2 - 1 Mile** **Lower**	**AZ WELLS**	**AZWR577484**

Registryid:	577484	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	23	Acre160:	SE
Acre40:	NE	Acre10:	SE
Utmx:	415906.5	Utmy:	3745396.6
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	12/02/1999 00:00:00
Driller:	127	Welldepth:	440
Waterlevel:	400	Casingtype:	PLASTIC OR PVC
Casingdeep:	66	Casingwide:	7
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drilllog:	X
Lastname:	HALL	Firstname:	RICK
Company:	Not Reported		
Address:	6631 E MILTON DR		
City:	CAVE CREEK	State:	AZ
Zipcode:	85331	Cancelled:	Not Reported

Driller:	127
Company:	SPUR CROSS DEVELOPMENT, INC.
Address:	38219 N. 3RD AVENUE DESERT HILLS, AZ 85027

I32 **WSW** **1/2 - 1 Mile** **Lower**	**AZ WELLS**	**AZWR638233**

Registryid:	638233	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SW
Acre40:	NE	Acre10:	SW
Utmx:	414891.1	Utmy:	3743798.9
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported

Approved:	Not Reported	Installed:	Not Reported
Driller:	0	Welldepth:	0
Waterlevel:	0	Casingtype:	Not Reported
Casingdeep:	0	Casingwide:	0
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drilllog:	Not Reported
Lastname:	WOOD,J M	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 233		
City:	CAVE CREEK	State:	AZ
Zipcode:	85331	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported
	AZ

J33
NNW
1/2 - 1 Mile
Lower

FED USGS **335047111544501**

BASIC WELL DATA

Site Type:	Single well, other than collector or Ranney type		
Year Constructed:	1972	County:	Maricopa
Altitude:	2510.00 ft.	State:	Arizona
Well Depth:	301.00 ft.	Topographic Setting:	Undulating
Depth to Water Table:	Not Reported	Prim. Use of Site:	Withdrawal of water
Date Measured:	Not Reported	Prim. Use of Water:	Domestic

J34
NNW
1/2 - 1 Mile
Lower

AZ WELLS **AZWR640447**

Registryid:	640447	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	23	Acre160:	SE
Acre40:	NE	Acre10:	SW
Utmx:	415705.6	Utmy:	3745397.6
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	04/01/1980 00:00:00
Driller:	0	Welldepth:	295
Waterlevel:	212	Casingtype:	STEEL - PERFORATED OR SLOTTED CASING
Casingdeep:	290	Casingwide:	5
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	12	Testrate:	12
Drawdown:	0	Drilllog:	Not Reported

Lastname:	DIFFEE,R E	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 149		
City:	CAVE CREEK	State:	AZ
Zipcode:	85331	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported AZ

K35
SSE
1/2 - 1 Mile
Lower

AZ WELLS **AZWR604781**

Registryid:	604781	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	36	Acre160:	NW
Acre40:	SE	Acre10:	NE
Utmx:	416689.4	Utmy:	3742784.5
Welltype:	NON-EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	MUNICIPAL
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	03/15/1982 00:00:00
Driller:	0	Welldepth:	1091
Waterlevel:	191	Casingtype:	STEEL - PERFORATED OR SLOTTED CASING
Casingdeep:	1091	Casingwide:	16
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	575	Testrate:	575
Drawdown:	0	Drilllog:	Not Reported
Lastname:	CAREFREE WATER CO,	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 702		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported

Registryid:	604781	Pump1984:	385.4
Pump1985:	213.82	Pump1986:	320.99
Pump1987:	452.9	Pump1988:	529.3
Pump1989:	492.2	Pump1990:	442.82
Pump1991:	500.01	Pump1992:	480.85
Pump1993:	490.14	Pump1994:	508.17
Pump1995:	458.88	Pump1996:	490.16
Pump1997:	529.01	Pump1998:	479.16
Pump1999:	264.9	Pumptotal:	7296.43

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported AZ

Map ID Direction Distance Elevation	Database	EDR ID Number
36 **NE** **1/2 - 1 Mile** **Higher**	**AZ WELLS**	**AZWR567962**

Registryid:	567962	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	24	Acre160:	SE
Acre40:	SW	Acre10:	NE
Utmx:	417118.3	Utmy:	3745188.4
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	06/09/1998 00:00:00
Driller:	127	Welldepth:	460
Waterlevel:	320	Casingtype:	PLASTIC OR PVC
Casingdeep:	140	Casingwide:	5
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drillog:	X
Lastname:	WHITE	Firstname:	ROBERT B
Company:	Not Reported		
Address:	P O BOX 1103		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported

Driller:	127
Company:	SPUR CROSS DEVELOPMENT, INC.
Address:	38219 N. 3RD AVENUE DESERT HILLS, AZ 85027

L37 **NE** **1/2 - 1 Mile** **Higher**	**AZ WELLS**	**AZWR573912**

Registryid:	573912	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	24	Acre160:	SE
Acre40:	SE	Acre10:	SW
Utmx:	417319	Utmy:	3744986.7
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported

Approved:	04/13/1999 00:00:00	Installed:	Not Reported
Driller:	127	Welldepth:	0
Waterlevel:	0	Casingtype:	Not Reported
Casingdeep:	0	Casingwide:	0
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drilllog:	Not Reported
Lastname:	JOHNSON	Firstname:	RONALD
Company:	Not Reported		
Address:	P O BOX 5041		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Y

Driller:	127
Company:	SPUR CROSS DEVELOPMENT, INC.
Address:	38219 N. 3RD AVENUE DESERT HILLS, AZ 85027

K38
SSE
1/2 - 1 Mile
Higher

FED USGS **334926111535801**

BASIC WELL DATA

Site Type:	Single well, other than collector or Ranney type		
Year Constructed:	1961	County:	Maricopa
Altitude:	2520.00 ft.	State:	Arizona
Well Depth:	1091.00 ft.	Topographic Setting:	Not Reported
Depth to Water Table:	130.00 ft.	Prim. Use of Site:	Withdrawal of water
Date Measured:	10011961	Prim. Use of Water:	Public supply

I39
WSW
1/2 - 1 Mile
Lower

AZ WELLS **AZWR803838**

Registryid:	803838	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SW
Acre40:	Not Reported	Acre10:	Not Reported
Utmx:	414790.1	Utmy:	3743699.3
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	10/01/1972 00:00:00
Driller:	0	Welldepth:	0
Waterlevel:	0	Casingtype:	Not Reported
Casingdeep:	0	Casingwide:	0
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drilllog:	Not Reported

Lastname:	WOOD, JEANN,M	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 825		
City:	CAVE CREEK	State:	AZ
Zipcode:	85331	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported AZ

I40
WSW
1/2 - 1 Mile
Lower

AZ WELLS **AZWR640595**

Registryid:	640595	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SW
Acre40:	Not Reported	Acre10:	Not Reported
Utmx:	414790.1	Utmy:	3743699.3
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	NONE
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	Not Reported
Driller:	0	Welldepth:	0
Waterlevel:	0	Casingtype:	Not Reported
Casingdeep:	0	Casingwide:	0
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drilllog:	Not Reported
Lastname:	DIEDRICH, THAYES & E,	Firstname:	Not Reported
Company:	Not Reported		
Address:	1109 WESTWOOD DR		
City:	PLANO	State:	TX
Zipcode:	75075	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported AZ

J41
NNW
1/2 - 1 Mile
Lower

AZ WELLS **AZWR801059**

Registryid:	801059	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	23	Acre160:	SE
Acre40:	NW	Acre10:	SE
Utmx:	415505.2	Utmy:	3745398.6
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	07/23/1972 00:00:00
Driller:	0	Welldepth:	300
Waterlevel:	42	Casingtype:	STEEL - PERFORATED OR SLOTTED CASING
Casingdeep:	250	Casingwide:	8
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	35	Testrate:	35
Drawdown:	0	Drilllog:	Not Reported
Lastname:	KIVA WTR RESOURC INC,	Firstname:	Not Reported
Company:	Not Reported		
Address:	7750 E EVANS RD #3		
City:	SCOTTSDALE	State:	AZ
Zipcode:	85260	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported
	AZ

42
West
1/2 - 1 Mile
Lower

AZ WELLS **AZWR538118**

Registryid:	538118	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SW
Acre40:	NW	Acre10:	NE
Utmx:	414692.8	Utmy:	3744000.1
Welltype:	DOMESTIC STOCK EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	02/17/1993 00:00:00
Driller:	127	Welldepth:	400
Waterlevel:	280	Casingtype:	PLASTIC OR PVC
Casingdeep:	0	Casingwide:	84
Pumptype:	SUBMERSIBLE	Pumppower:	ELECTRIC MOTOR 1 - 5 HP
Pumprate:	12	Testrate:	0
Drawdown:	0	Drilllog:	X

Lastname:	KICKBUSH, ROLAND,	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 2951		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported

Driller:	127
Company:	SPUR CROSS DEVELOPMENT, INC.
Address:	38219 N. 3RD AVENUE DESERT HILLS, AZ 85027

43
NNE
1/2 - 1 Mile
Higher

AZ WELLS **AZWR565893**

Registryid:	565893	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	24	Acre160:	SW
Acre40:	NE	Acre10:	NW
Utmx:	416515.9	Utmy:	3745592.9
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	01/30/1998 00:00:00
Driller:	127	Welldepth:	400
Waterlevel:	280	Casingtype:	PLASTIC OR PVC
Casingdeep:	400	Casingwide:	8
Pumptype:	SUBMERSIBLE	Pumppower:	ELECTRIC MOTOR 1 - 5 HP
Pumprate:	12	Testrate:	40
Drawdown:	0	Drilllog:	X
Lastname:	KULFAN	Firstname:	DAVID
Company:	Not Reported		
Address:	P O BOX 5284		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported

Driller:	127
Company:	SPUR CROSS DEVELOPMENT, INC.
Address:	38219 N. 3RD AVENUE DESERT HILLS, AZ 85027

144
WSW
1/2 - 1 Mile
Lower

AZ WELLS **AZWR524910**

Registryid:	524910	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SW
Acre40:	NW	Acre10:	SE
Utmx:	414691.1	Utmy:	3743799.9
Welltype:	DOMESTIC STOCK EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	06/04/1989 00:00:00
Driller:	127	Welldepth:	300
Waterlevel:	200	Casingtype:	PLASTIC OR PVC
Casingdeep:	300	Casingwide:	8
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drilllog:	X
Lastname:	MARK, ADOLF DE-ROY,	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 1052		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported

Driller:	127
Company:	SPUR CROSS DEVELOPMENT, INC.
Address:	38219 N. 3RD AVENUE DESERT HILLS, AZ 85027

I45
WSW
1/2 - 1 Mile
Lower

AZ WELLS **AZWR525029**

Registryid:	525029	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SW
Acre40:	NW	Acre10:	SE
Utmx:	414691.1	Utmy:	3743799.9
Welltype:	DOMESTIC STOCK EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	06/25/1989 00:00:00
Driller:	127	Welldepth:	300
Waterlevel:	150	Casingtype:	PLASTIC OR PVC
Casingdeep:	300	Casingwide:	8
Pumptype:	SUBMERSIBLE	Pumppower:	ELECTRIC MOTOR 1 - 5 HP
Pumprate:	10	Testrate:	35
Drawdown:	0	Drilllog:	X

Lastname:	MOSER, ALVIN,	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 5430		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported

Driller:	127
Company:	SPUR CROSS DEVELOPMENT, INC.
Address:	38219 N. 3RD AVENUE DESERT HILLS, AZ 85027

I46
WSW
1/2 - 1 Mile
Lower

AZ WELLS **AZWR633667**

Registryid:	633667	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SW
Acre40:	NW	Acre10:	SE
Utmx:	414691.1	Utmy:	3743799.9
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	IRRIGATION	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	Not Reported
Driller:	0	Welldepth:	0
Waterlevel:	0	Casingtype:	Not Reported
Casingdeep:	0	Casingwide:	0
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	34	Testrate:	34
Drawdown:	0	Drillog:	Not Reported
Lastname:	AUSMAN JR,E L	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 2575		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported AZ

I47
WSW
1/2 - 1 Mile
Lower

AZ WELLS **AZWR640371**

Registryid:	640371	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SW
Acre40:	NW	Acre10:	SE
Utmx:	414691.1	Utmy:	3743799.9
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	01/01/1968 00:00:00
Driller:	0	Welldepth:	95
Waterlevel:	41	Casingtype:	STEEL - PERFORATED OR SLOTTED CASING
Casingdeep:	0	Casingwide:	6
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	29	Testrate:	29
Drawdown:	0	Drillog:	Not Reported
Lastname:	THOMPSON, ROBERT,W	Firstname:	Not Reported
Company:	Not Reported		
Address:	BOX 2333		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported AZ

48
South
1/2 - 1 Mile
Lower

FED USGS **334918111542801**

BASIC WELL DATA

Site Type:	Single well, other than collector or Ranney type		
Year Constructed:	1972	County:	Maricopa
Altitude:	2455.00 ft.	State:	Arizona
Well Depth:	385.00 ft.	Topographic Setting:	Not Reported
Depth to Water Table:	105.00 ft.	Prim. Use of Site:	Not Reported
Date Measured:	04011972	Prim. Use of Water:	Not Reported

M49
WSW
1/2 - 1 Mile
Lower

AZ WELLS **AZWR527022**

Registryid:	527022	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SW
Acre40:	SW	Acre10:	NE
Utmx:	414689.3	Utmy:	3743599.6
Welltype:	DOMESTIC STOCK EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	02/06/1990 00:00:00
Driller:	355	Welldepth:	200
Waterlevel:	58	Casingtype:	STEEL - PERFORATED OR SLOTTED CASING
Casingdeep:	200	Casingwide:	8
Pumptype:	CENTRIFUGAL	Pumppower:	ELECTRIC MOTOR < 1 HP
Pumprate:	10	Testrate:	10
Drawdown:	20	Drilllog:	X
Lastname:	O'BOYLE, EDWARD,	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 1723		
City:	CAVE CREEK	State:	AZ
Zipcode:	85331	Cancelled:	Not Reported

Driller:	355
Company:	BEEMAN BROTHERS DRILLING, INC.
Address:	44806 N. 14TH STREET NEW RIVER, AZ 85087

M50
WSW
1/2 - 1 Mile
Lower

AZ WELLS **AZWR537088**

Registryid:	537088	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SW
Acre40:	SW	Acre10:	NE
Utmx:	414689.3	Utmy:	3743599.6
Welltype:	DOMESTIC STOCK EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	Not Reported
Driller:	355	Welldepth:	0
Waterlevel:	0	Casingtype:	Not Reported
Casingdeep:	0	Casingwide:	0
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drilllog:	Not Reported

Lastname:	CARNICELLI,L	Firstname:	Not Reported
Company:	Not Reported		
Address:	4139 W PT AU PRINCE		
City:	PHOENIX	State:	AZ
Zipcode:	85023	Cancelled:	Y

Driller:	355
Company:	BEEMAN BROTHERS DRILLING, INC.
Address:	44806 N. 14TH STREET NEW RIVER, AZ 85087

M51
WSW
1/2 - 1 Mile
Lower

AZ WELLS **AZWR085289**

Registryid:	085289	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SW
Acre40:	SW	Acre10:	NE
Utmx:	414689.3	Utmy:	3743599.6
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	01/01/1980 00:00:00
Driller:	127	Welldepth:	200
Waterlevel:	150	Casingtype:	PLASTIC OR PVC
Casingdeep:	203	Casingwide:	5
Pumptype:	SUBMERSIBLE	Pumppower:	ELECTRIC MOTOR < 1 HP
Pumprate:	0	Testrate:	0
Drawdown:	15	Drillog:	Not Reported
Lastname:	DRAKE,D	Firstname:	Not Reported
Company:	Not Reported		
Address:	1029 MANITOU		
City:	BOISE	State:	ID
Zipcode:	83706	Cancelled:	Not Reported

Driller:	127
Company:	SPUR CROSS DEVELOPMENT, INC.
Address:	38219 N. 3RD AVENUE DESERT HILLS, AZ 85027

M52
WSW
1/2 - 1 Mile
Lower

AZ WELLS **AZWR517616**

Registryid:	517616	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SW
Acre40:	SW	Acre10:	NE
Utmx:	414689.3	Utmy:	3743599.6
Welltype:	DOMESTIC STOCK EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	Not Reported
Driller:	127	Welldepth:	0
Waterlevel:	0	Casingtype:	Not Reported
Casingdeep:	0	Casingwide:	0
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drilllog:	Not Reported
Lastname:	ALDER, JAMES & JANE,	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 762		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Y

Driller:	127
Company:	SPUR CROSS DEVELOPMENT, INC.
Address:	38219 N. 3RD AVENUE DESERT HILLS, AZ 85027

L53
NE
1/2 - 1 Mile
Higher

AZ WELLS **AZWR542918**

Registryid:	542918	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	24	Acre160:	SE
Acre40:	SE	Acre10:	SE
Utmx:	417521	Utmy:	3744985.4
Welltype:	DOMESTIC STOCK EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	Not Reported
Driller:	355	Welldepth:	0
Waterlevel:	0	Casingtype:	Not Reported
Casingdeep:	0	Casingwide:	0
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drilllog:	Not Reported

GEOCHECK®- PHYSICAL SETTING SOURCE MAP FINDINGS

Lastname:	HOY	Firstname:	ROBERT E
Company:	Not Reported		
Address:	8131 E JUAN TABO RD		
City:	SCOTTSDALE	State:	AZ
Zipcode:	85255	Cancelled:	Y

Driller:	355
Company:	BEEMAN BROTHERS DRILLING, INC.
Address:	44806 N. 14TH STREET NEW RIVER, AZ 85087

GEOCHECK®- PHYSICAL SETTING SOURCE MAP FINDINGS
RADON

AREA RADON INFORMATION

Federal EPA Radon Zone for MARICOPA County: 2

Note: Zone 1 indoor average level > 4 pCi/L.
: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
: Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for MARICOPA COUNTY, AZ

Number of sites tested: 695

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	1.697 pCi/L	93%	7%	0%
Living Area - 2nd Floor	3.640 pCi/L	80%	20%	0%
Basement	2.242 pCi/L	79%	21%	0%

PHYSICAL SETTING SOURCE RECORDS SEARCHED

HYDROLOGIC INFORMATION

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 1999 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002 from the U.S. Fish and Wildlife Service.

HYDROGEOLOGIC INFORMATION

AQUIFLOW[R] Information System
Source: EDR proprietary database of groundwater flow information
EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit
Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database
The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the national Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

ADDITIONAL ENVIRONMENTAL RECORD SOURCES

FEDERAL WATER WELLS

PWS: *Public Water Systems*
Source: EPA/Office of Drinking Water
Telephone: 202-260-2805
Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data
Source: EPA/Office of Drinking Water
Telephone: 202-260-2805
Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: In November 1971 the United States Geological Survey (USGS) implemented a national water resource information tracking system. This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on more than 900,000 wells, springs, and other sources of groundwater.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

STATE RECORDS

Arizona Well Registration Database
Source: Department of Water Resources
Telephone: 602-771-1586
Contains information provided to ADWR's Operations Division by well drillers and/or owners.

RADON

Area Radon Information
Source: USGS
Telephone: 303-202-4210
The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones
Source: EPA
Telephone: 202-564-9370
Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

OTHER

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

EDR Radius Map with GeoCheck Inquiry Number 896955.4s

The EDR Radius Map
with GeoCheck®

Carefree Drainage Master Plan
JEF 44
Carefree, AZ 85377

Inquiry Number: 896955.4s

December 12, 2002

Environmental Data Resources, Inc.

The Source For Environmental Risk Management Data

3530 Post Road
Southport, Connecticut 06890

Nationwide Customer Service

Telephone: 1-800-352-0050
Fax: 1-800-231-6802
Internet: www.edrnet.com

FORM-ACP

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Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc. (EDR). The report meets the government records search requirements of ASTM Standard Practice for Environmental Site Assessments, E 1527-00. Search distances are per ASTM standard or custom distances requested by the user.

TARGET PROPERTY INFORMATION

ADDRESS

JEF 44
CAREFREE, AZ 85377

COORDINATES

Latitude (North):	33.833100 - 33' 49' 59.2"
Longitude (West):	111.897900 - 111' 53' 52.4"
Universal Tranverse Mercator:	Zone 12
UTM X (Meters):	416915.9
UTM Y (Meters):	3743819.2

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property:	2433111-G8 CAVE CREEK, AZ
Source:	USGS 7.5 min quad index

TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the ASTM E 1527-00 search radius around the target property for the following databases:

FEDERAL ASTM STANDARD

NPL..... National Priority List
Proposed NPL..... Proposed National Priority List Sites
CERCLIS..... Comprehensive Environmental Response, Compensation, and Liability Information System
CERC-NFRAP..... CERCLIS No Further Remedial Action Planned
CORRACTS..... Corrective Action Report
RCRIS-TSD..... Resource Conservation and Recovery Information System
RCRIS-LQG..... Resource Conservation and Recovery Information System
RCRIS-SQG..... Resource Conservation and Recovery Information System
ERNS..... Emergency Response Notification System

STATE ASTM STANDARD

SPL..... Superfund Program List
SHWS..... ZipAcids List
SWF/LF..... Directory of Solid Waste Facilities
LUST..... Leaking Underground Storage Tank Listing

EXECUTIVE SUMMARY

UST..... Underground Storage Tank Listing
AZ WQARF..... Water Quality Assurance Revolving Fund Sites

FEDERAL ASTM SUPPLEMENTAL

CONSENT..... Superfund (CERCLA) Consent Decrees
ROD..... Records Of Decision
Delisted NPL..... National Priority List Deletions
FINDS..... Facility Index System/Facility Identification Initiative Program Summary Report
HMIRS..... Hazardous Materials Information Reporting System
MLTS..... Material Licensing Tracking System
MINES..... Mines Master Index File
NPL Liens..... Federal Superfund Liens
PADS..... PCB Activity Database System
RAATS..... RCRA Administrative Action Tracking System
TRIS..... Toxic Chemical Release Inventory System
TSCA..... Toxic Substances Control Act
SSTS..... Section 7 Tracking Systems
FTTS..... FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

STATE OR LOCAL ASTM SUPPLEMENTAL

AST..... List of Aboveground Storage Tanks
AZ Spills..... Hazardous Material Logbook
AZ DOD..... Department of Defense Sites
WWFAC..... Waste Water Treatment Facilities
Aquifer..... Waste Water Treatment Facilities
Dry Wells..... Drywell Registration
AZ AIRS..... Arizona Airs Database

EDR PROPRIETARY HISTORICAL DATABASES

Coal Gas..... Former Manufactured Gas (Coal Gas) Sites

SURROUNDING SITES: SEARCH RESULTS

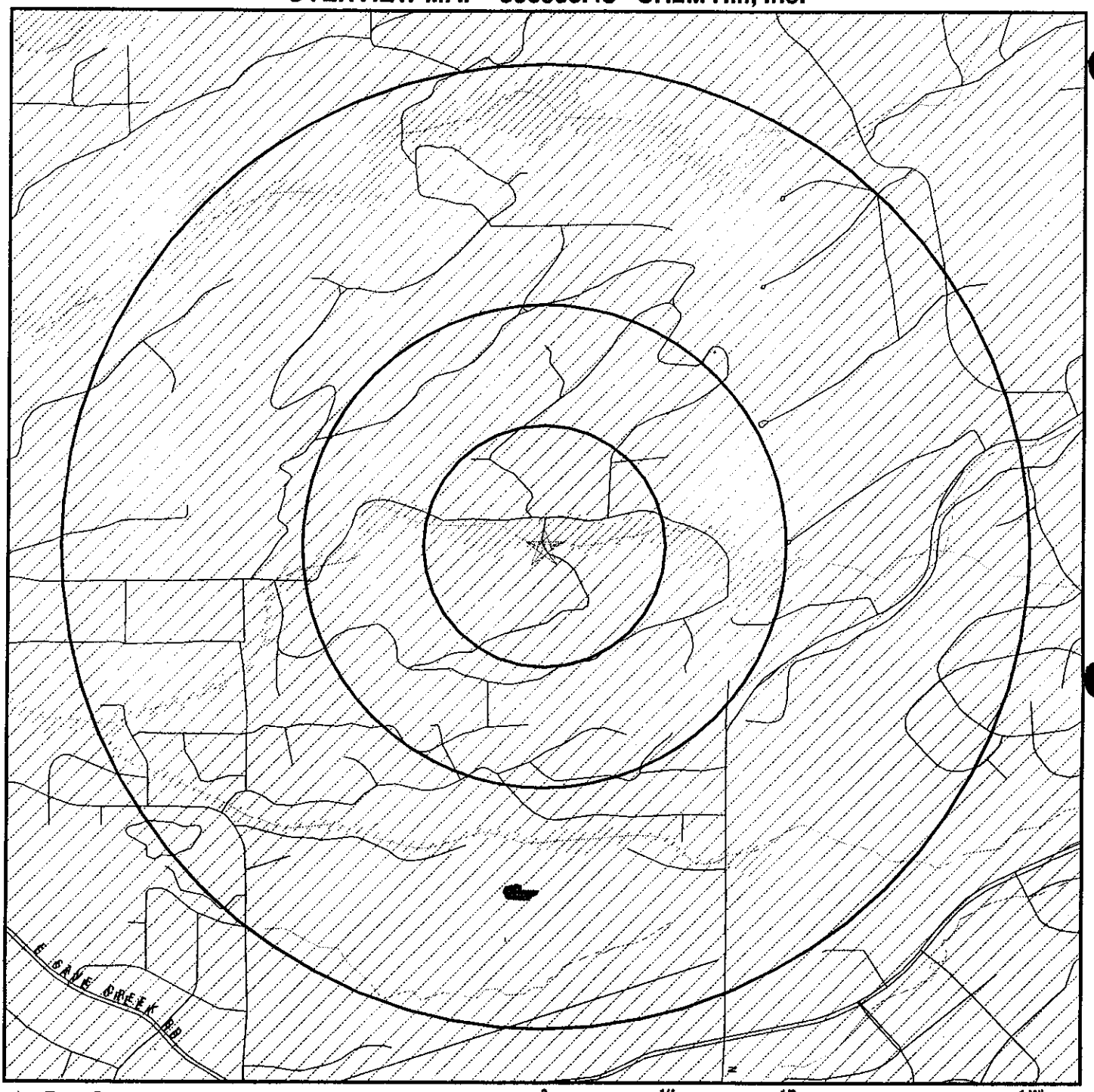
Surrounding sites were not identified.

EXECUTIVE SUMMARY

Due to poor or inadequate address information, the following sites were not mapped:

Site Name	Database(s)
WQ-GILA RIVER DDT	SHWS
DEER VALLEY	SWF/LF
CITY OF PHOENIX 22ND AVE.	SWF/LF
ARIZONA SAND & ROCK	SWF/LF
MARTORI FARMS	SWF/LF
QUEEN CREEK	SWF/LF, WWFAC
BEARDSLEY	SWF/LF
DEL RIO	SWF/LF, WWFAC
ARIZONA MEDICAL WASTE	SWF/LF
RESOURCE PROCESSING INC.	SWF/LF
LAYLOR MATERIALS	SWF/LF
UFI	SWF/LF
VAL VISTA	SWF/LF
WILLIAMS AIR FORCE BASE	SWF/LF
DEER VALLEY	SWF/LF
CITY OF MESA	SWF/LF
OLD TOWN DUMP	SWF/LF
GENERAL MOTORS PROVING GROUNDS	SWF/LF
CITY OF CHANDLER	SWF/LF
CHANDLER INT. #1 INTERIM	SWF/LF
BUCKEYE	SWF/LF, WWFAC
CITY OF GLENDALE	SWF/LF
ALLIED	SWF/LF
K & B TIRE CO.	SWF/LF
CITY OF PHOENIX 91ST AVE.	SWF/LF
27TH AVENUE	SWF/LF
DEER VALLEY LANDFILL	SWF/LF
LONE CACTUS LANDFILL	SWF/LF
PERRYVILLE	SWF/LF
CAVE CREEK, TOWN OF WWTP	Aquifer, WWFAC
CAREFREE CLEANERS	RCRIS-SQG, FINDS

OVERVIEW MAP - 896955.4s - CH2M Hill, Inc.



- ☆ Target Property
- ▲ Sites at elevations higher than or equal to the target property
- ◆ Sites at elevations lower than the target property
- ♟ Coal Gasification Sites
- National Priority List Sites
- Landfill Sites
- Power transmission lines
- Oil & Gas pipelines
- 100-year flood zone
- 500-year flood zone
- Dept. of Defense Sites
- Water Quality Assurance Revolving Fund Areas

0 1/4 1/2 1 Miles

N

TARGET PROPERTY:	Carefree Drainage Master Plan	CUSTOMER:	CH2M Hill, Inc.
ADDRESS:	JEF 44	CONTACT:	Monique Chaisson
CITY/STATE/ZIP:	Carefree AZ 85377	INQUIRY #:	896955.4s
LAT/LONG:	33.8331 / 111.8979	DATE:	December 12, 2002 3:45 pm

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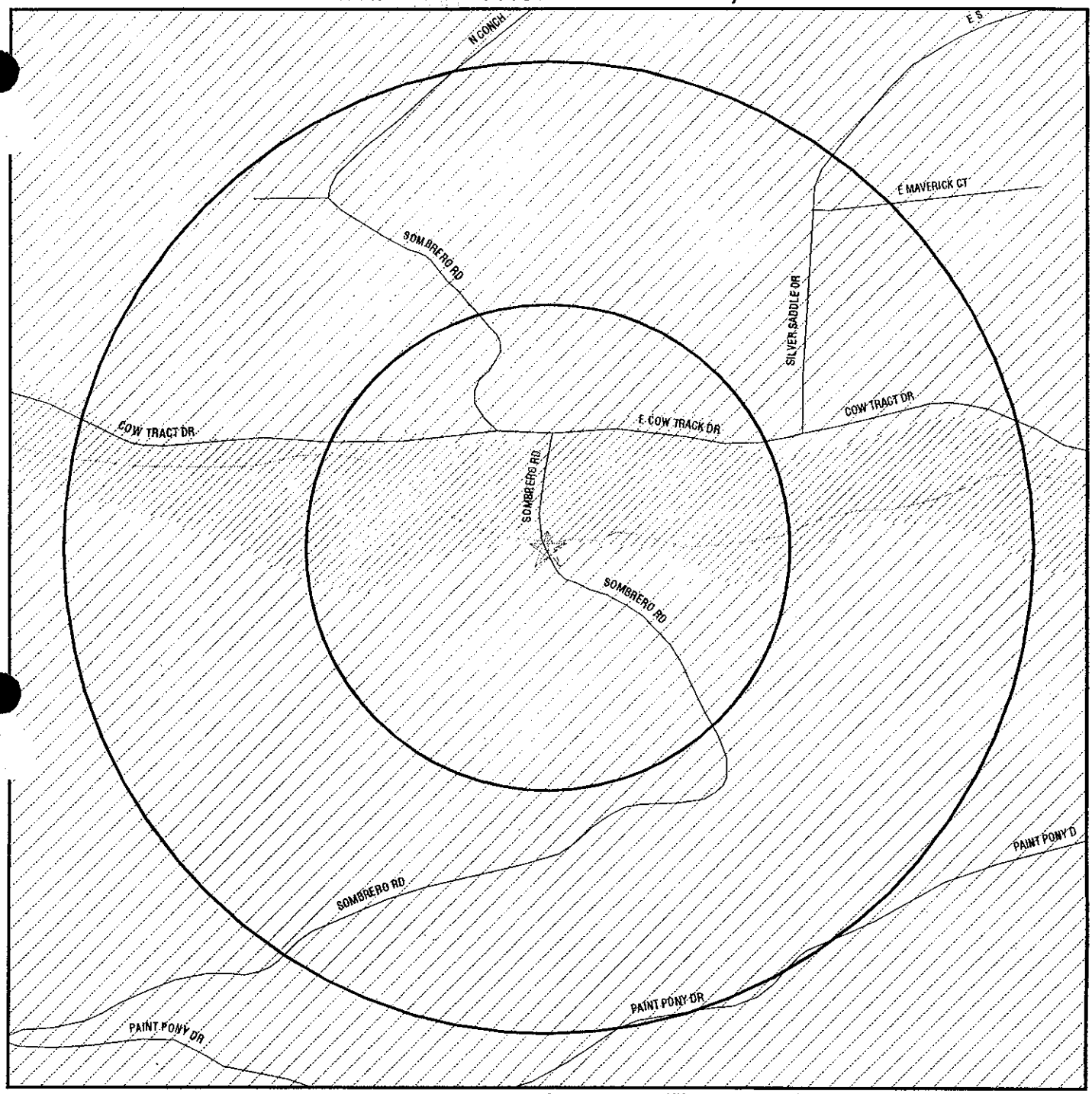
DETAIL MAP - 896955.4s - CH2M Hill, Inc.



0 1/16 1/8 1/4 Miles

- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Coal Gasification Sites
- Sensitive Receptors
- National Priority List Sites
- Landfill Sites
- Power transmission lines
- Oil & Gas pipelines
- 100-year flood zone
- 500-year flood zone
- Dept. of Defense Sites
- Water Quality Assurance Revolving Fund Areas

TARGET PROPERTY:	Carefree Drainage Master Plan	CUSTOMER:	CH2M Hill, Inc.
ADDRESS:	JEF 44	CONTACT:	Monique Chaisson
CITY/STATE/ZIP:	Carefree AZ 85377	INQUIRY #:	896955.4s
LAT/LONG:	33.8331 / 111.8979	DATE:	December 12, 2002 3:45 pm

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MAP FINDINGS SUMMARY

Database	Target Property	Search Distance (Miles)	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
FEDERAL ASTM STANDARD								
NPL		1.000	0	0	0	0	NR	0
Proposed NPL		1.000	0	0	0	0	NR	0
CERCLIS		0.500	0	0	0	NR	NR	0
CERC-NFRAP		0.250	0	0	NR	NR	NR	0
CORRACTS		1.000	0	0	0	0	NR	0
RCRIS-TSD		0.500	0	0	0	NR	NR	0
RCRIS Lg. Quan. Gen.		0.250	0	0	NR	NR	NR	0
RCRIS Sm. Quan. Gen.		0.250	0	0	NR	NR	NR	0
ERNS		TP	NR	NR	NR	NR	NR	0
STATE ASTM STANDARD								
SPL		1.000	0	0	0	0	NR	0
State Haz. Waste		1.000	0	0	0	0	NR	0
State Landfill		0.500	0	0	0	NR	NR	0
LUST		0.500	0	0	0	NR	NR	0
UST		0.250	0	0	NR	NR	NR	0
AZ WQARF		1.000	0	0	0	0	NR	0
FEDERAL ASTM SUPPLEMENTAL								
CONSENT		1.000	0	0	0	0	NR	0
ROD		1.000	0	0	0	0	NR	0
Delisted NPL		1.000	0	0	0	0	NR	0
FINDS		TP	NR	NR	NR	NR	NR	0
HMIRS		TP	NR	NR	NR	NR	NR	0
MLTS		TP	NR	NR	NR	NR	NR	0
MINES		0.250	0	0	NR	NR	NR	0
NPL Liens		TP	NR	NR	NR	NR	NR	0
PADS		TP	NR	NR	NR	NR	NR	0
RAATS		TP	NR	NR	NR	NR	NR	0
TRIS		TP	NR	NR	NR	NR	NR	0
TSCA		TP	NR	NR	NR	NR	NR	0
SSTS		TP	NR	NR	NR	NR	NR	0
FTTS		TP	NR	NR	NR	NR	NR	0
STATE OR LOCAL ASTM SUPPLEMENTAL								
AST		TP	NR	NR	NR	NR	NR	0
AZ Spills		TP	NR	NR	NR	NR	NR	0
AZ DOD		0.500	0	0	0	NR	NR	0
WWFAC		0.500	0	0	0	NR	NR	0
Aquifer		TP	NR	NR	NR	NR	NR	0
Dry Wells		TP	NR	NR	NR	NR	NR	0
AZ AIRS		TP	NR	NR	NR	NR	NR	0
EDR PROPRIETARY HISTORICAL DATABASES								
Coal Gas		1.000	0	0	0	0	NR	0

MAP FINDINGS SUMMARY

Database	Target Property	Search Distance (Miles)	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted

AQUIFLOW - see EDR Physical Setting Source Addendum

TP = Target Property

NR = Not Requested at this Search Distance

* Sites may be listed in more than one database

Map ID Direction Distance Distance (ft.) Elevation	Site	Database(s)	EDR ID Number EPA ID Number

Coal Gas Site Search: No site was found in a search of Real Property Scan's ENVIROHAZ database.

NO SITES FOUND

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
CAREFREE	1000202304	CAREFREE CLEANERS	36889 N TOM DARLINGTON DR	85377	RCRIS-SQG, FINDS
CAVE CREEK	S102787860	CAVE CREEK, TOWN OF WWTP	5600 E. RANCHO MANANA BLV	85331	Aquifer, WWFAC
MARICOPA COUNTY	S103895113	DEER VALLEY	19TH AVE. AND SOUTH OF GREENWA		SWF/LF
MARICOPA COUNTY	S103895110	CITY OF PHOENIX 22ND AVE.	22ND AVE. AND LOWER BUCKEYE RD		SWF/LF
MARICOPA COUNTY	S103895104	ARIZONA SAND & ROCK	AGUA FRIA RIVER AND GRAND AVE.		SWF/LF
MARICOPA COUNTY	S103895000	MARTORI FARMS	AGUILA, AZ		SWF/LF
MARICOPA COUNTY	S103278189	QUEEN CREEK	26402 B.SOUTH HAWES RD.1/2 MIL		SWF/LF, WWFAC
MARICOPA COUNTY	S103895106	BEARDSLEY	BETWEEN CENTRAL AVE. AND 7TH S		SWF/LF
MARICOPA COUNTY	S103277500	DEL RIO	BETWEEN 7TH AND 16TH ST. NORTH		SWF/LF, WWFAC
MARICOPA COUNTY	S103894989	ARIZONA MEDICAL WASTE	2 BLOCKS NORTH OF CAMELBACK RD		SWF/LF
MARICOPA COUNTY	S103086637	RESOURCE PROCESSING INC.	CENTRAL PORTION OF GILA BEND B		SWF/LF
MARICOPA COUNTY	S103895118	LAYLOR MATERIALS	NORTHEAST CORNER OF 16TH ST. B		SWF/LF
MARICOPA COUNTY	S103895127	UFI	SOUTHEAST CORNER OF 123RD. AVE		SWF/LF
MARICOPA COUNTY	S103895128	VAL VISTA	SOUTHEAST CORNER OF RAY RD. AN		SWF/LF
MARICOPA COUNTY	S103895130	WILLIAMS AIR FORCE BASE	SOUTHWEST CORNER OF WILLIAMS A		SWF/LF
MARICOPA COUNTY	S103894997	DEER VALLEY	SW CORNER OF 12TH ST. AND ALAM		SWF/LF
MARICOPA COUNTY	S103895108	CITY OF MESA	NORTHEAST CORNER OF CENTER ST.		SWF/LF
MARICOPA COUNTY	S103895120	OLD TOWN DUMP	DYSART RD. TO RID CANAL NORTH		SWF/LF
MARICOPA COUNTY	S103895115	GENERAL MOTORS PROVING GROUNDS	ELLIOT RD. EAST TO SOSSMAN RD.		SWF/LF
MARICOPA COUNTY	S103894995	CITY OF CHANDLER	GILA AND SALT RIVER BASE AND M		SWF/LF
MARICOPA COUNTY	S103086668	CHANDLER INT. #1 INTERIM	SOUTHEAST INTERSECTION OF FRYE		SWF/LF
MARICOPA COUNTY	S103809877	WQ-GILA RIVER DDT	LOWER GILA RIVER--SW AZ		SHWS
MARICOPA COUNTY	S103277326	BUCKEYE	AT MILLER RD. AND GILA RIVER		SWF/LF, WWFAC
MARICOPA COUNTY	S103894996	CITY OF GLENDALE	NORTHSIDE OF GLENDALE AVE.EAST		SWF/LF
MARICOPA COUNTY	S100240624	ALLIED	SOUTH OF INDIAN SCHOOL RD, WES		SWF/LF
MARICOPA COUNTY	S103894998	K & B TIRE CO.	SOUTH OF MC DOWELL RD. BETWEEN		SWF/LF
MARICOPA COUNTY	S103895111	CITY OF PHOENIX 91ST AVE.	WEST SIDE OF 91ST. AVE.		SWF/LF
MARICOPA COUNTY	S100293344	27TH AVENUE	THE SOUTHWEST CORNER OF 27TH A		SWF/LF
MARICOPA COUNTY	S100293350	DEER VALLEY LANDFILL	THE SOUTHWEST CORNER OF 16TH S		SWF/LF
MARICOPA COUNTY	S100293354	LONE CACTUS LANDFILL	ON THE N WEST CORNER OF 7TH ST		SWF/LF
MARICOPA COUNTY	S103895121	PERRYVILLE	YUMA RD. EAST OF LUKE AIR FORC		SWF/LF

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Elapsed ASTM days: Provides confirmation that this EDR report meets or exceeds the 90-day updating requirement of the ASTM standard.

FEDERAL ASTM STANDARD RECORDS

NPL: National Priority List
Source: EPA
Telephone: N/A
National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 10/24/02
Date Made Active at EDR: 12/09/02
Database Release Frequency: Semi-Annually
Date of Data Arrival at EDR: 11/04/02
Elapsed ASTM days: 35
Date of Last EDR Contact: 11/04/02

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 3
Telephone 215-814-5418

EPA Region 4
Telephone 404-562-8033

EPA Region 6
Telephone: 214-655-6659

EPA Region 8
Telephone: 303-312-6774

Proposed NPL: Proposed National Priority List Sites
Source: EPA
Telephone: N/A

Date of Government Version: 10/24/02
Date Made Active at EDR: 12/09/02
Database Release Frequency: Semi-Annually
Date of Data Arrival at EDR: 11/04/02
Elapsed ASTM days: 35
Date of Last EDR Contact: 11/04/02

CERCLIS: Comprehensive Environmental Response, Compensation, and Liability Information System
Source: EPA
Telephone: 703-413-0223
CERCLIS contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). CERCLIS contains sites which are either proposed to or on the National Priorities List (NPL) and sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 08/15/02
Date Made Active at EDR: 10/28/02
Database Release Frequency: Quarterly
Date of Data Arrival at EDR: 09/23/02
Elapsed ASTM days: 35
Date of Last EDR Contact: 09/23/02

CERCLIS-NFRAP: CERCLIS No Further Remedial Action Planned
Source: EPA
Telephone: 703-413-0223
As of February 1995, CERCLIS sites designated "No Further Remedial Action Planned" (NFRAP) have been removed from CERCLIS. NFRAP sites may be sites where, following an initial investigation, no contamination was found, contamination was removed quickly without the need for the site to be placed on the NPL, or the contamination was not serious enough to require Federal Superfund action or NPL consideration. EPA has removed approximately 25,000 NFRAP sites to lift the unintended barriers to the redevelopment of these properties and has archived them as historical records so EPA does not needlessly repeat the investigations in the future. This policy change is part of the EPA's Brownfields Redevelopment Program to help cities, states, private investors and affected citizens to promote economic redevelopment of unproductive urban sites.

Date of Government Version: 09/15/02
Date Made Active at EDR: 10/28/02
Database Release Frequency: Quarterly
Date of Data Arrival at EDR: 10/03/02
Elapsed ASTM days: 25
Date of Last EDR Contact: 09/23/02

CORRACTS: Corrective Action Report
Source: EPA
Telephone: 800-424-9346
CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 05/02/02
Date Made Active at EDR: 07/15/02
Database Release Frequency: Semi-Annually
Date of Data Arrival at EDR: 05/06/02
Elapsed ASTM days: 70
Date of Last EDR Contact: 09/09/02

RCRIS: Resource Conservation and Recovery Information System
Source: EPA/NTIS
Telephone: 800-424-9346
Resource Conservation and Recovery Information System. RCRIS includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA).

Date of Government Version: 09/09/02
Date Made Active at EDR: 10/28/02
Database Release Frequency: Varies
Date of Data Arrival at EDR: 09/24/02
Elapsed ASTM days: 34
Date of Last EDR Contact: 09/24/02

ERNS: Emergency Response Notification System
Source: EPA/NTIS
Telephone: 202-260-2342
Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 12/31/01
Date Made Active at EDR: 07/15/02
Database Release Frequency: Varies
Date of Data Arrival at EDR: 07/02/02
Elapsed ASTM days: 13
Date of Last EDR Contact: 10/28/02

FEDERAL ASTM SUPPLEMENTAL RECORDS

BRS: Biennial Reporting System
Source: EPA/NTIS
Telephone: 800-424-9346
The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/99
Database Release Frequency: Biennially
Date of Last EDR Contact: 09/16/02
Date of Next Scheduled EDR Contact: 12/16/02

CONSENT: Superfund (CERCLA) Consent Decrees
Source: EPA Regional Offices
Telephone: Varies
Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: N/A
Database Release Frequency: Varies
Date of Last EDR Contact: N/A
Date of Next Scheduled EDR Contact: N/A

ROD: Records Of Decision
Source: EPA
Telephone: 703-416-0223
Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 12/21/01
Database Release Frequency: Annually

Date of Last EDR Contact: 10/07/02
Date of Next Scheduled EDR Contact: 01/06/03

DELISTED NPL: National Priority List Deletions
Source: EPA
Telephone: N/A
The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 10/18/02
Database Release Frequency: Quarterly

Date of Last EDR Contact: 11/04/02
Date of Next Scheduled EDR Contact: 02/03/03

FINDS: Facility Index System/Facility Identification Initiative Program Summary Report
Source: EPA
Telephone: N/A
Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 10/10/02
Database Release Frequency: Quarterly

Date of Last EDR Contact: 10/07/02
Date of Next Scheduled EDR Contact: 01/06/03

HMIRS: Hazardous Materials Information Reporting System
Source: U.S. Department of Transportation
Telephone: 202-366-4555
Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 07/31/02
Database Release Frequency: Annually

Date of Last EDR Contact: 10/21/02
Date of Next Scheduled EDR Contact: 01/20/03

MLTS: Material Licensing Tracking System
Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 10/21/02
Database Release Frequency: Quarterly

Date of Last EDR Contact: 10/08/02
Date of Next Scheduled EDR Contact: 01/06/03

MINES: Mines Master Index File
Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959

Date of Government Version: 09/10/02
Database Release Frequency: Semi-Annually

Date of Last EDR Contact: 09/30/02
Date of Next Scheduled EDR Contact: 12/30/02

NPL LIENS: Federal Superfund Liens
Source: EPA
Telephone: 205-564-4267
Federal Superfund Liens. Under the authority granted the USEPA by the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner receives notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/91
Database Release Frequency: No Update Planned
Date of Last EDR Contact: 11/25/02
Date of Next Scheduled EDR Contact: 02/24/03

PADS: PCB Activity Database System
Source: EPA
Telephone: 202-564-3887
PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 06/28/02
Database Release Frequency: Annually
Date of Last EDR Contact: 11/13/02
Date of Next Scheduled EDR Contact: 02/10/03

RAATS: RCRA Administrative Action Tracking System
Source: EPA
Telephone: 202-564-4104
RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/95
Database Release Frequency: No Update Planned
Date of Last EDR Contact: 09/10/02
Date of Next Scheduled EDR Contact: 12/09/02

TRIS: Toxic Chemical Release Inventory System
Source: EPA
Telephone: 202-260-1531
Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/00
Database Release Frequency: Annually
Date of Last EDR Contact: 09/24/02
Date of Next Scheduled EDR Contact: 12/23/02

TSCA: Toxic Substances Control Act
Source: EPA
Telephone: 202-260-5521
Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/98
Database Release Frequency: Every 4 Years
Date of Last EDR Contact: 09/09/02
Date of Next Scheduled EDR Contact: 12/09/02

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
Source: EPA
Telephone: 202-564-2501

Date of Government Version: 04/25/02
Database Release Frequency: Quarterly
Date of Last EDR Contact: 09/24/02
Date of Next Scheduled EDR Contact: 12/23/02

SSTS: Section 7 Tracking Systems
Source: EPA
Telephone: 202-564-5008
Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 12/31/00
Database Release Frequency: Annually
Date of Last EDR Contact: 10/22/02
Date of Next Scheduled EDR Contact: 01/20/03

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-564-2501
FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/25/02
Database Release Frequency: Quarterly
Date of Last EDR Contact: 09/24/02
Date of Next Scheduled EDR Contact: 12/23/02

STATE OF ARIZONA ASTM STANDARD RECORDS

SPL: Superfund Program List
Source: Dept. of Environmental Quality
Telephone: 602-771-4360
The list is representative of the sites and potential sites within the jurisdiction of the Superfund Program Section. It is comprised of the following elements: 1) Water Quality Assurance Revolving Fund Registry Sites; 2) Potential WQARF Registry sites; 3) NPL sites; and 4) Department of Defense sites requiring SPS oversight.

Date of Government Version: 07/15/02
Date Made Active at EDR: 10/04/02
Database Release Frequency: Semi-Annually
Date of Data Arrival at EDR: 09/03/02
Elapsed ASTM days: 31
Date of Last EDR Contact: 12/02/02

SHWS: ZipAcids List
Source: Department of Environmental Quality
Telephone: 602-771-4360
The ACIDS list consists of more than 750 locations subject to investigation under the State Water Quality Assurance Revolving Fund (WQARF) and Federal CERCLA programs. The list is no longer updated by the state.

Date of Government Version: 01/03/00
Date Made Active at EDR: 05/16/00
Database Release Frequency: No Update Planned
Date of Data Arrival at EDR: 04/11/00
Elapsed ASTM days: 35
Date of Last EDR Contact: 10/21/02

SWF/LF: Directory of Solid Waste Facilities
Source: Department of Environmental Quality
Telephone: 602-771-4132
Solid Waste Facilities/Landfill Sites. SWF/LF type records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. Depending on the state, these may be active or inactive facilities or open dumps that failed to meet RCRA Subtitle D Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 11/01/00
Date Made Active at EDR: 02/01/01
Database Release Frequency: Annually
Date of Data Arrival at EDR: 01/02/01
Elapsed ASTM days: 30
Date of Last EDR Contact: 11/15/02

LUST: Leaking Underground Storage Tank Listing
Source: Department of Environmental Quality
Telephone: 602-771-4345
Leaking Underground Storage Tank Incident Reports. LUST records contain an inventory of reported leaking underground storage tank incidents. Not all states maintain these records, and the information stored varies by state.

Date of Government Version: 10/30/02
Date Made Active at EDR: 11/25/02
Database Release Frequency: Semi-Annually
Date of Data Arrival at EDR: 11/12/02
Elapsed ASTM days: 13
Date of Last EDR Contact: 11/12/02

UST: Underground Storage Tank Listing
Source: Department of Environmental Quality
Telephone: 602-771-4345
Registered Underground Storage Tanks. UST's are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA) and must be registered with the state department responsible for administering the UST program. Available information varies by state program.

Date of Government Version: 02/06/02
Date Made Active at EDR: 04/01/02
Database Release Frequency: Annually

Date of Data Arrival at EDR: 03/11/02
Elapsed ASTM days: 21
Date of Last EDR Contact: 11/12/02

WQARF: Water Quality Assurance Revolving Fund Sites
Source: Department of Environmental Quality
Telephone: 602-771-4360
Sites which may have an actual or potential impact upon the waters of the state, cause by hazardous substances. The WQARF program provides matching funds to political subdivisions and other state agencies for clean-up activities.

Date of Government Version: 03/08/02
Date Made Active at EDR: 04/30/02
Database Release Frequency: Annually

Date of Data Arrival at EDR: 03/25/02
Elapsed ASTM days: 36
Date of Last EDR Contact: 09/25/02

STATE OF ARIZONA ASTM SUPPLEMENTAL RECORDS

AST: List of Aboveground Storage Tanks
Source: Dept. of Building & Fire Safety
Telephone: 602-364-1003
Aboveground storage tanks that the Dept. of Building & Fire Safety have permitted.

Date of Government Version: 12/31/00
Database Release Frequency: Annually

Date of Last EDR Contact: 10/25/02
Date of Next Scheduled EDR Contact: 01/13/03

SPILLS: Hazardous Material Logbook
Source: Department of Environmental Quality
Telephone: 602-771-4153
ADEQ Emergency Response Unit. The ADEQ Emergency Response Unit documents chemical spills and incidents which are referred to the Unit. The logbook information for 1984-1986 consists of handwritten entries of the date, incident number and name of facility if known. Current logbooks are computerized and can be sorted by date, incident number, name, city (zip codes are not included), county, chemical and quantity.

Date of Government Version: 06/30/00
Database Release Frequency: Semi-Annually

Date of Last EDR Contact: 09/30/00
Date of Next Scheduled EDR Contact: 12/30/02

DOD: Department of Defense Sites
Source: Department of Environmental Quality
Telephone: 602-771-4360
These sites are federal facilities that are either being assessed for potential contamination, or have active remediation taking place on them.

Date of Government Version: 03/08/02
Database Release Frequency: Annually

Date of Last EDR Contact: 09/25/02
Date of Next Scheduled EDR Contact: 12/23/02

WWFAC: Waste Water Treatment Facilities
Source: Department of Environmental Quality
Telephone: 602-771-4623
Statewide list of waste water treatment facilities.

Date of Government Version: 12/12/00
Database Release Frequency: Varies

Date of Last EDR Contact: 11/25/02
Date of Next Scheduled EDR Contact: 02/24/03

AQUIFER: Waste Water Treatment Facilities
Source: Department of Environmental Quality
Telephone: 602-771-4623
Waste Water Treatment Facilities with APP (Aquifer Protection Permits.)

Date of Government Version: 11/01/01
Database Release Frequency: Semi-Annually

Date of Last EDR Contact: 10/28/02
Date of Next Scheduled EDR Contact: 01/27/03

DRY WELLS: Drywell Registration
Source: Department of Environmental Quality
Telephone: 602-771-4686
A drywell is a bored, drilled, or driven shaft or hole whose depth is greater than its width and is designed and constructed specifically for the disposal of storm water.

Date of Government Version: 09/01/02
Database Release Frequency: Semi-Annually

Date of Last EDR Contact: 09/23/02
Date of Next Scheduled EDR Contact: 12/23/02

AZ AIRS: Arizona Airs Database
Source: Department of Environmental Quality
Telephone: 602-771-2344
Arizona major (has the potential to emit over 100 tons of criteria pollutant) and minor (below 100 tons) sources.

Date of Government Version: 05/31/02
Database Release Frequency: Semi-Annually

Date of Last EDR Contact: 11/04/02
Date of Next Scheduled EDR Contact: 02/03/03

EDR PROPRIETARY HISTORICAL DATABASES

Former Manufactured Gas (Coal Gas) Sites: The existence and location of Coal Gas sites is provided exclusively to EDR by Real Property Scan, Inc. ©Copyright 1993 Real Property Scan, Inc. For a technical description of the types of hazards which may be found at such sites, contact your EDR customer service representative.

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The information contained in this report has predominantly been obtained from publicly available sources produced by entities other than Real Property Scan. While reasonable steps have been taken to insure the accuracy of this report, Real Property Scan does not guarantee the accuracy of this report. Any liability on the part of Real Property Scan is strictly limited to a refund of the amount paid. No claim is made for the actual existence of toxins at any site. This report does not constitute a legal opinion.

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

Oil/Gas Pipelines/Electrical Transmission Lines: This data was obtained by EDR from the USGS in 1994. It is referred to by USGS as GeoData Digital Line Graphs from 1:100,000-Scale Maps. It was extracted from the transportation category including some oil, but primarily gas pipelines and electrical transmission lines.

Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 1999 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002 from the U.S. Fish and Wildlife Service.

STREET AND ADDRESS INFORMATION

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GEOCHECK®- PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

CAREFREE DRAINAGE MASTER PLAN
JEF 44
CAREFREE, AZ 85377

TARGET PROPERTY COORDINATES

Latitude (North):	33.833099 - 33' 49' 59.2"
Longitude (West):	111.897903 - 111' 53' 52.5"
Universal Tranverse Mercator:	Zone 12
UTM X (Meters):	416915.9
UTM Y (Meters):	3743819.2

EDR's GeoCheck Physical Setting Source Addendum has been developed to assist the environmental professional with the collection of physical setting source information in accordance with ASTM 1527-00, Section 7.2.3. Section 7.2.3 requires that a current USGS 7.5 Minute Topographic Map (or equivalent, such as the USGS Digital Elevation Model) be reviewed. It also requires that one or more additional physical setting sources be sought when (1) conditions have been identified in which hazardous substances or petroleum products are likely to migrate to or from the property, and (2) more information than is provided in the current USGS 7.5 Minute Topographic Map (or equivalent) is generally obtained, pursuant to local good commercial or customary practice, to assess the impact of migration of recognized environmental conditions in connection with the property. Such additional physical setting sources generally include information about the topographic, hydrologic, hydrogeologic, and geologic characteristics of a site, and wells in the area.

Assessment of the impact of contaminant migration generally has two principle investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata. EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

TOPOGRAPHIC INFORMATION

Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

USGS TOPOGRAPHIC MAP ASSOCIATED WITH THIS SITE

Target Property: 2433111-G8 CAVE CREEK, AZ
Source: USGS 7.5 min quad index

GENERAL TOPOGRAPHIC GRADIENT AT TARGET PROPERTY

Target Property: General West

Source: General Topographic Gradient has been determined from the USGS 1 Degree Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

Target Property County	FEMA Flood Electronic Data
MARICOPA, AZ	YES - refer to the Overview Map and Detail Map

Flood Plain Panel at Target Property: 04013C0809G

Additional Panels in search area: 04013C0807G
04013C0806G
04013C0808G

NATIONAL WETLAND INVENTORY

NWI Quad at Target Property	NWI Electronic Data Coverage
NOT AVAILABLE	Not Available

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Site-Specific Hydrogeological Data*:

Search Radius:	2.0 miles
Status:	Not found

AQUIFLOW®

Search Radius: 2.000 Miles.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

MAP ID	LOCATION FROM TP	GENERAL DIRECTION GROUNDWATER FLOW
Not Reported		

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

Era:	Cenozoic
System:	Quaternary
Series:	Quaternary
Code:	Q *(decoded above as Era, System & Series)*

GEOLOGIC AGE IDENTIFICATION

Category: Stratifed Sequence

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps. The following information is based on Soil Conservation Service STATSGO data.

* ©1996 Site-specific hydrogeological data gathered by CERCLIS Alerts, Inc., Bainbridge Island, WA. All rights reserved. All of the information and opinions presented are those of the cited EPA report(s), which were completed under a Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS) investigation.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Component Name: GRAN

Soil Surface Texture: very gravelly - sandy loam

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class: Well drained. Soils have intermediate water holding capacity. Depth to water table is more than 6 feet.

Hydric Status: Soil does not meet the requirements for a hydric soil.

Corrosion Potential - Uncoated Steel: HIGH

Depth to Bedrock Min: > 20 inches

Depth to Bedrock Max: > 40 inches

Soil Layer Information

	Boundary			Classification			
Layer	**Upper**	**Lower**	**Soil Texture Class**	**AASHTO Group**	**Unified Soil**	**Permeability Rate (in/hr)**	**Soil Reaction (pH)**
1	0 inches	1 inches	very gravelly - sandy loam	Granular materials (35 pct. or less passing No. 200), Stone Fragments, Gravel and Sand.	COURSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 6.00 Min: 2.00	Max: 8.40 Min: 7.40
2	1 inches	12 inches	very gravelly - sandy clay	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COURSE-GRAINED SOILS, Sands, Sands with fines, Clayey sand.	Max: 0.60 Min: 0.20	Max: 8.40 Min: 7.40
3	12 inches	36 inches	weathered bedrock	Not reported	Not reported	Max: 0.00 Min: 0.00	Max: 0.00 Min: 0.00
4	36 inches	40 inches	unweathered bedrock	Not reported	Not reported	Max: 0.00 Min: 0.00	Max: 0.00 Min: 0.00

OTHER SOIL TYPES IN AREA

Based on Soil Conservation Service STATSGO data, the following additional subordinant soil types may appear within the general area of target property.

Soil Surface Textures: unweathered bedrock
very gravelly - clay loam

Surficial Soil Types: unweathered bedrock
very gravelly - clay loam

Shallow Soil Types: No Other Soil Types

Deeper Soil Types: No Other Soil Types

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

ADDITIONAL ENVIRONMENTAL RECORD SOURCES

According to ASTM E 1527-00, Section 7.2.2, "one or more additional state or local sources of environmental records may be checked, in the discretion of the environmental professional, to enhance and supplement federal and state sources... Factors to consider in determining which local or additional state records, if any, should be checked include (1) whether they are reasonably ascertainable, (2) whether they are sufficiently useful, accurate, and complete in light of the objective of the records review (see 7.1.1), and (3) whether they are obtained, pursuant to local, good commercial or customary practice." One of the record sources listed in Section 7.2.2 is water well information. Water well information can be used to assist the environmental professional in assessing sources that may impact groundwater flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

WELL SEARCH DISTANCE INFORMATION

DATABASE	SEARCH DISTANCE (miles)
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 1 mile
State Database	1.000

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
A2	334953111531301	1/2 - 1 Mile East
B3	334926111535801	1/2 - 1 Mile SSW
C14	334919111534301	1/2 - 1 Mile South
G15	334924111532401	1/2 - 1 Mile SSE
I22	334930111543001	1/2 - 1 Mile SW
37	334918111542801	1/2 - 1 Mile SW

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
B6	AZ0407015	1/2 - 1 Mile SSW

Note: PWS System location is not always the same as well location.

STATE DATABASE WELL INFORMATION

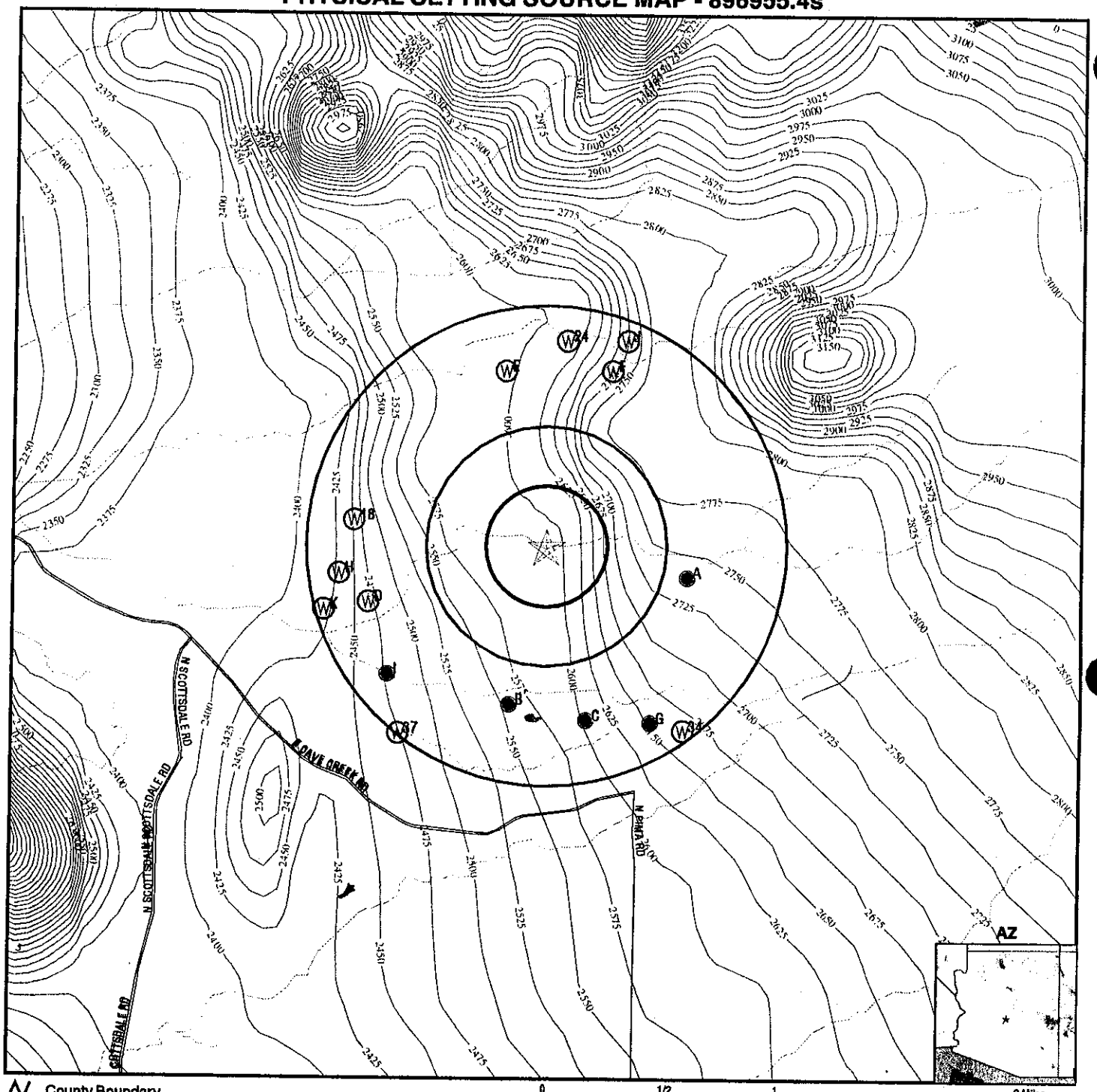
MAP ID	WELL ID	LOCATION FROM TP
A1	AZWR606414	1/2 - 1 Mile ESE
B4	AZWR604781	1/2 - 1 Mile SSW
C5	AZWR605050	1/2 - 1 Mile SSE
D7	AZWR801084	1/2 - 1 Mile WSW
E8	AZWR542369	1/2 - 1 Mile NNW
E9	AZWR584067	1/2 - 1 Mile NNW
E10	AZWR569905	1/2 - 1 Mile NNW
F11	AZWR573912	1/2 - 1 Mile NNE
D12	AZWR803770	1/2 - 1 Mile WSW

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
D13	AZWR803769	1/2 - 1 Mile WSW
C16	AZWR572380	1/2 - 1 Mile SSE
F17	AZWR542918	1/2 - 1 Mile NNE
18	AZWR638748	1/2 - 1 Mile West
H19	AZWR572237	1/2 - 1 Mile West
H20	AZWR512174	1/2 - 1 Mile West
D21	AZWR556858	1/2 - 1 Mile WSW
I23	AZWR604780	1/2 - 1 Mile SW
24	AZWR567962	1/2 - 1 Mile North
H25	AZWR806754	1/2 - 1 Mile West
H26	AZWR602366	1/2 - 1 Mile West
H27	AZWR648169	1/2 - 1 Mile West
G28	AZWR606413	1/2 - 1 Mile SSE
G29	AZWR511364	1/2 - 1 Mile SSE
J30	AZWR542920	1/2 - 1 Mile NNE
J31	AZWR572242	1/2 - 1 Mile NNE
H32	AZWR508721	1/2 - 1 Mile West
H33	AZWR628046	1/2 - 1 Mile West
34	AZWR577141	1/2 - 1 Mile SE
K35	AZWR800671	1/2 - 1 Mile WSW
K36	AZWR514904	1/2 - 1 Mile WSW

PHYSICAL SETTING SOURCE MAP - 896955.4s



County Boundary
Major Roads
Contour Lines
Water Wells
Public Water Supply Wells
Groundwater Flow Direction
Indeterminate Groundwater Flow at Location
Groundwater Flow Varies at Location
Cluster of Multiple Icons

0 1/2 1 2 Miles

Earthquake epicenter, Richter 5 or greater
Closest Hydrogeological Data

TARGET PROPERTY:	Carefree Drainage Master Plan	CUSTOMER:	CH2M Hill, Inc.
ADDRESS:	JEF 44	CONTACT:	Monique Chaisson
CITY/STATE/ZIP:	Carefree AZ 85377	INQUIRY #:	896955.4s
LAT/LONG:	33.8331 / 111.8979	DATE:	December 12, 2002 3:45 pm

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Map ID Direction Distance Elevation	Database	EDR ID Number
A1 **ESE** **1/2 - 1 Mile** **Higher**	**AZ WELLS**	**AZWR606414**

Registryid:	606414	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	5	Eastwest:	E
Section:	30	Acre160:	SW
Acre40:	SW	Acre10:	NE
Utmx:	417911.6	Utmy:	3743576.9
Welltype:	NON-EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	05/09/1962 00:00:00
Driller:	0	Welldepth:	1160
Waterlevel:	320	Casingtype:	Not Reported
Casingdeep:	1180	Casingwide:	10
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	150	Testrate:	150
Drawdown:	0	Drilllog:	Not Reported
Lastname:	SCOTTSDALE, CITY OF,	Firstname:	Not Reported
Company:	Not Reported		
Address:	9388 E SAN SALVADOR		
City:	SCOTTSDALE	State:	AZ
Zipcode:	85258	Cancelled:	Not Reported

Registryid:	606414	Pump1984:	179.3
Pump1985:	112.05	Pump1986:	117
Pump1987:	82.79	Pump1988:	63.8
Pump1989:	110.8	Pump1990:	152.6
Pump1991:	144.96	Pump1992:	155.08
Pump1993:	122.46	Pump1994:	44
Pump1995:	0	Pump1996:	0
Pump1997:	0	Pump1998:	0
Pump1999:	0	Pumptotal:	1284.84

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported AZ

A2 **East** **1/2 - 1 Mile** **Higher**	**FED USGS**	**334953111531301**

BASIC WELL DATA

Site Type:	Single well, other than collector or Ranney type		
Year Constructed:	1961	County:	Maricopà
Altitude:	2665.00 ft.	State:	Arizona
Well Depth:	1217.00 ft.	Topographic Setting:	Hilltop
Depth to Water Table:	278.54 ft.	Prim. Use of Site:	Withdrawal of water
Date Measured:	05081962	Prim. Use of Water:	Stock

GEOCHECK®- PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID Direction Distance Elevation	Database	EDR ID Number
B3 **SSW** **1/2 - 1 Mile** **Lower**	**FED USGS**	**334926111535801**

BASIC WELL DATA

Site Type:	Single well, other than collector or Ranney type		
Year Constructed:	1961	County:	Maricopa
Altitude:	2520.00 ft.	State:	Arizona
Well Depth:	1091.00 ft.	Topographic Setting:	Not Reported
Depth to Water Table:	130.00 ft.	Prim. Use of Site:	Withdrawal of water
Date Measured:	10011961	Prim. Use of Water:	Public supply

B4 **SSW** **1/2 - 1 Mile** **Lower**		**AZ WELLS**	**AZWR604781**

Registryid:	604781	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	36	Acre160:	NW
Acre40:	SE	Acre10:	NE
Utmx:	416689.4	Utmy:	3742784.5
Welltype:	NON-EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	MUNICIPAL
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	03/15/1982 00:00:00
Driller:	0	Welldepth:	1091
Waterlevel:	191	Casingtype:	STEEL - PERFORATED OR SLOTTED CASING
Casingdeep:	1091	Casingwide:	16
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	575	Testrate:	575
Drawdown:	0	Drillog:	Not Reported
Lastname:	CAREFREE WATER CO,	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 702		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported

Registryid:	604781	Pump1984:	385.4
Pump1985:	213.82	Pump1986:	320.99
Pump1987:	452.9	Pump1988:	529.3
Pump1989:	492.2	Pump1990:	442.82
Pump1991:	500.01	Pump1992:	480.85
Pump1993:	490.14	Pump1994:	508.17
Pump1995:	458.88	Pump1996:	490.16
Pump1997:	529.01	Pump1998:	479.16
Pump1999:	264.9	Pumptotal:	7296.43

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported
	AZ

C5
SSE
1/2 - 1 Mile
Higher

AZ WELLS **AZWR605050**

Registryid:	605050	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	36	Acre160:	NE
Acre40:	SE	Acre10:	NW
Utmx:	417293.3	Utmy:	3742780.2
Welltype:	NON-EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	IRRIGATION
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	05/27/1970 00:00:00
Driller:	0	Welldepth:	710
Waterlevel:	210	Casingtype:	STEEL - PERFORATED OR SLOTTED CASING
Casingdeep:	20	Casingwide:	20
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	750	Testrate:	750
Drawdown:	0	Drilllog:	Not Reported
Lastname:	Not Reported	Firstname:	Not Reported
Company:	DESERT FOREST GOLF CLUB		
Address:	PO BOX 1399		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported

Registryid:	605050	Pump1984:	367.7
Pump1985:	400.68	Pump1986:	425.94
Pump1987:	436.39	Pump1988:	298.75
Pump1989:	303.49	Pump1990:	281.72
Pump1991:	304.47	Pump1992:	275.58
Pump1993:	308.72	Pump1994:	326.99
Pump1995:	315.2	Pump1996:	299.69
Pump1997:	353.02	Pump1998:	350.74
Pump1999:	357.6	Pumptotal:	5433.01

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported
	AZ

B6
SSW
1/2 - 1 Mile
Lower

FRDS PWS **AZ0407015**

PWS ID:	AZ0407015	PWS Status:	Not Reported
Date Initiated:	Not Reported	Date Deactivated:	Not Reported
PWS Name:	CAREFREE WATER CO INC PO BOX 702 CAREFREE, AZ 85377		
Addressee / Facility:	System Owner/Responsible Party CAREFREE WATER CO INC P.O. BOX 7724 PHOENIX, AZ 85011		

Facility Latitude:	33 49 51	Facility Longitude:	111 55 00
Facility Latitude:	33 49 33	Facility Longitude:	111 54 29
Facility Latitude:	33 48 47	Facility Longitude:	111 52 50
Facility Latitude:	33 48 47	Facility Longitude:	111 53 24
Facility Latitude:	33 49 22	Facility Longitude:	111 53 59
City Served:	CAREFREE		
Treatment Class:	Untreated	Population:	2400

PWS currently has or had major violation(s) or enforcement: Yes

Violations information not reported.

ENFORCEMENT INFORMATION:

System Name:	CAREFREE WATER CO INC		
Violation Type:	Monitoring, Routine Minor (TCR)		
Contaminant:	COLIFORM (TCR)		
Compliance Period:	1998-01-01 - 1998-01-31	Analytical Value:	0000000.000000000
Violation ID:	98036146	Enforcement ID:	Not Reported
Enforcement Date:	Not Reported	Enf. Action:	Not Reported

D7
WSW
1/2 - 1 Mile
Lower

AZ WELLS **AZWR801084**

Registryid:	801084	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SE
Acre40:	SE	Acre10:	SE
Utmx:	415887.8	Utmy:	3743393.8
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	01/30/1962 00:00:00
Driller:	0	Welldepth:	265
Waterlevel:	265	Casingtype:	OTHER - BLACK STEEL - IRON - SEAMLESS
Casingdeep:	225	Casingwide:	6
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	34	Testrate:	34
Drawdown:	0	Drilllog:	Not Reported

Lastname:	GENTLEMAN COLONEL,A W	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 1023		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported AZ

E8
NNW
1/2 - 1 Mile
Higher

AZ WELLS **AZWR542369**

Registryid:	542369	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	24	Acre160:	SW
Acre40:	SE	Acre10:	SE
Utmx:	416711.6	Utmy:	3744990.8
Welltype:	DOMESTIC STOCK EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	02/12/1994 00:00:00
Driller:	355	Welldepth:	235
Waterlevel:	108	Casingtype:	STEEL - PERFORATED OR SLOTTED CASING
Casingdeep:	235	Casingwide:	8
Pumptype:	SUBMERSIBLE	Pumppower:	ELECTRIC MOTOR < 1 HP
Pumprate:	10	Testrate:	40
Drawdown:	20	Drillog:	X
Lastname:	*GREEN, RICK,*	*Firstname:*	Not Reported
Company:	Not Reported		
Address:	7234 E CAVE CREEK		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported

Driller:	355
Company:	BEEMAN BROTHERS DRILLING, INC.
Address:	44806 N. 14TH STREET NEW RIVER, AZ 85087

E9
NNW
1/2 - 1 Mile
Higher

AZ WELLS **AZWR584067**

Registryid:	584067	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	24	Acre160:	SW
Acre40:	SE	Acre10:	SE
Utmx:	416711.6	Utmy:	3744990.8
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	11/14/2000 00:00:00	Installed:	Not Reported
Driller:	608	Welldepth:	0
Waterlevel:	0	Casingtype:	Not Reported
Casingdeep:	0	Casingwide:	0
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drilllog:	Not Reported
Lastname:	FLOYD	Firstname:	DALEN
Company:	Not Reported		
Address:	PO BOX 2354		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported

Driller:	608
Company:	RAINBOW DRILLING
Address:	8005 W. PATRICK LANE PEORIA, AZ 85382

E10
NNW
1/2 - 1 Mile
Higher

AZ WELLS **AZWR569905**

Registryid:	569905	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	24	Acre160:	SW
Acre40:	SE	Acre10:	SE
Utmx:	416711.6	Utmy:	3744990.8
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	08/27/1998 00:00:00
Driller:	35	Welldepth:	226
Waterlevel:	166	Casingtype:	PLASTIC OR PVC
Casingdeep:	226	Casingwide:	8
Pumptype:	SUBMERSIBLE	Pumppower:	ELECTRIC MOTOR 1 - 5 HP
Pumprate:	18	Testrate:	25
Drawdown:	0	Drilllog:	X

Lastname:	ABDO III	Firstname:	WILLIAM J
Company:	Not Reported		
Address:	15650 N 43RD ST		
City:	PHOENIX	State:	AZ
Zipcode:	85032	Cancelled:	Not Reported

Driller:	35
Company:	CAMPBELL'S DRILLING, INC.
Address:	P.O. BOX 3019 WICKENBURG, AZ 85358

F11
NNE
1/2 - 1 Mile
Higher

AZ WELLS **AZWR573912**

Registryid:	573912	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	24	Acre160:	SE
Acre40:	SE	Acre10:	SW
Utmx:	417319	Utmy:	3744986.7
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	04/13/1999 00:00:00	Installed:	Not Reported
Driller:	127	Welldepth:	0
Waterlevel:	0	Casingtype:	Not Reported
Casingdeep:	0	Casingwide:	0
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drillog:	Not Reported
Lastname:	JOHNSON	Firstname:	RONALD
Company:	Not Reported		
Address:	P O BOX 5041		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Y

Driller:	127
Company:	SPUR CROSS DEVELOPMENT, INC.
Address:	38219 N. 3RD AVENUE DESERT HILLS, AZ 85027

D12
WSW
1/2 - 1 Mile
Lower

AZ WELLS **AZWR803770**

Registryid:	803770	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SE
Acre40:	SE	Acre10:	Not Reported
Utmx:	415788.6	Utmy:	3743494.4
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	Not Reported
Driller:	0	Welldepth:	0
Waterlevel:	0	Casingtype:	STEEL - PERFORATED OR SLOTTED CASING
Casingdeep:	0	Casingwide:	0
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drillog:	Not Reported
Lastname:	PETERS, BERNICE,A	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 1816		
City:	CAVE CREEK	State:	AZ
Zipcode:	85331	Cancelled:	Not Reported

Driller:	*0*
Company:	NO DRILLER SPECIFIED
Address:	Not Reported
	AZ

D13
WSW
1/2 - 1 Mile
Lower

AZ WELLS **AZWR803769**

Registryid:	*803769*	Program:	*55*
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SE
Acre40:	SE	Acre10:	Not Reported
Utmx:	415788.6	Utmy:	3743494.4
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	Not Reported
Driller:	0	Welldepth:	0
Waterlevel:	0	Casingtype:	STEEL - PERFORATED OR SLOTTED CASING
Casingdeep:	0	Casingwide:	0
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drillog:	Not Reported

Lastname:	PETERS, BERNICE,A	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 1816		
City:	CAVE CREEK	State:	AZ
Zipcode:	85331	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported AZ

C14
South
1/2 - 1 Mile
Lower

FED USGS **334919111534301**

BASIC WELL DATA

Site Type:	Single well, other than collector or Ranney type		
Year Constructed:	1970	County:	Maricopa
Altitude:	2550.00 ft.	State:	Arizona
Well Depth:	710.00 ft.	Topographic Setting:	Not Reported
Depth to Water Table:	195.00 ft.	Prim. Use of Site:	Withdrawal of water
Date Measured:	05011970	Prim. Use of Water:	Domestic

G15
SSE
1/2 - 1 Mile
Higher

FED USGS **334924111532401**

BASIC WELL DATA

Site Type:	Single well, other than collector or Ranney type		
Year Constructed:	1978	County:	Maricopa
Altitude:	2595.00 ft.	State:	Arizona
Well Depth:	1500.00 ft.	Topographic Setting:	Undulating
Depth to Water Table:	Not Reported	Prim. Use of Site:	Unused
Date Measured:	Not Reported	Prim. Use of Water:	Not Reported

C16
SSE
1/2 - 1 Mile
Higher

AZ WELLS **AZWR572380**

Registryid:	572380	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	36	Acre160:	NE
Acre40:	SE	Acre10:	SW
Utmx:	417291.1	Utmy:	3742579.3
Welltype:	NON-EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	IRRIGATION
Wateruse2:	Not Reported	Wateruse3:	Not Reported

Approved:	Not Reported	Installed:	07/19/1999 00:00:00
Driller:	215	Welldepth:	1015
Waterlevel:	364	Casingtype:	STEEL - PERFORATED OR SLOTTED CASING
Casingdeep:	995	Casingwide:	16
Pumptype:	TURBINE	Pumppower:	ELECTRIC MOTOR > 100 HP
Pumprate:	1000	Testrate:	800
Drawdown:	0	Drillog:	X
Lastname:	Not Reported	Firstname:	Not Reported
Company:	DESERT FOREST GOLF CLUB		
Address:	PO BOX 1399		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported

Registryid:	572380	Pump1984:	0
Pump1985:	0	Pump1986:	0
Pump1987:	0	Pump1988:	0
Pump1989:	0	Pump1990:	0
Pump1991:	0	Pump1992:	0
Pump1993:	0	Pump1994:	0
Pump1995:	0	Pump1996:	0
Pump1997:	0	Pump1998:	0
Pump1999:	5.98	Pumptotal:	326.82

Driller:	215
Company:	WEBER GROUP, L.C.
Address:	16825 S. WEBER DRIVE CHANDLER, AZ 85226

F17
NNE
1/2 - 1 Mile
Higher

AZ WELLS **AZWR542918**

Registryid:	542918	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	24	Acre160:	SE
Acre40:	SE	Acre10:	SE
Utmx:	417521	Utmy:	3744985.4
Welltype:	DOMESTIC STOCK EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	Not Reported
Driller:	355	Welldepth:	0
Waterlevel:	0	Casingtype:	Not Reported
Casingdeep:	0	Casingwide:	0
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drillog:	Not Reported
Lastname:	HOY	Firstname:	ROBERT E
Company:	Not Reported		
Address:	8131 E JUAN TABO RD		
City:	SCOTTSDALE	State:	AZ
Zipcode:	85255	Cancelled:	Y

Driller:	355
Company:	BEEMAN BROTHERS DRILLING, INC.
Address:	44806 N. 14TH STREET NEW RIVER, AZ 85087

18
West
1/2 - 1 Mile
Lower

AZ WELLS **AZWR638748**

Registryid:	638748	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SE
Acre40:	NE	Acre10:	NW
Utmx:	415692.8	Utmy:	3743995.5
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	IRRIGATION	Wateruse3:	STOCK
Approved:	Not Reported	Installed:	01/01/1972 00:00:00
Driller:	0	Welldepth:	0
Waterlevel:	0	Casingtype:	STEEL - PERFORATED OR SLOTTED CASING
Casingdeep:	0	Casingwide:	6
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drilllog:	Not Reported
Lastname:	CLEM II,S E	Firstname:	Not Reported
Company:	Not Reported		
Address:	7838 HORIZON DR		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported AZ

H19
West
1/2 - 1 Mile
Lower

AZ WELLS **AZWR572237**

Registryid:	572237	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SE
Acre40:	SE	Acre10:	NW
Utmx:	415689.5	Utmy:	3743594.9
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported

Approved:	04/02/1999 00:00:00	Installed:	Not Reported
Driller:	141	Welldepth:	0
Waterlevel:	0	Casingtype:	Not Reported
Casingdeep:	0	Casingwide:	0
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drilllog:	Not Reported
Lastname:	JONES	Firstname:	ROBERT W
Company:	Not Reported		
Address:	14002 N 49TH AVE #1062		
City:	GLENDALE	State:	AZ
Zipcode:	85306	Cancelled:	Y

Driller:	141
Company:	UNIVERSAL DRILLING, INC.
Address:	P.O. BOX 1027 WICKENBURG, AZ 85358

H20
West
1/2 - 1 Mile
Lower

AZ WELLS AZWR512174

Registryid:	512174	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SE
Acre40:	SE	Acre10:	NW
Utmx:	415689.5	Utmy:	3743594.9
Welltype:	DOMESTIC STOCK EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	08/27/1985 00:00:00
Driller:	126	Welldepth:	300
Waterlevel:	200	Casingtype:	PLASTIC OR PVC
Casingdeep:	300	Casingwide:	8
Pumptype:	SUBMERSIBLE	Pumppower:	ELECTRIC MOTOR 1 - 5 HP
Pumprate:	33	Testrate:	40
Drawdown:	0	Drilllog:	X
Lastname:	TEMPO WEST INC,	Firstname:	Not Reported
Company:	Not Reported		
Address:	7895 E ACOMA DR #110		
City:	SCOTTSDALE	State:	AZ
Zipcode:	85260	Cancelled:	Not Reported

Driller:	126
Company:	SOIL SAMPLING SERVICE, INC.
Address:	P.O. BOX 710 PUYALLUP, WA 98371

Map ID Direction Distance Elevation	Database	EDR ID Number
D21 **WSW** **1/2 - 1 Mile** **Lower**	**AZ WELLS**	**AZWR556858**

Registryid:	556858	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SE
Acre40:	SE	Acre10:	SW
Utmx:	415687.8	Utmy:	3743394.7
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	03/03/1997 00:00:00
Driller:	127	Welldepth:	300
Waterlevel:	180	Casingtype:	PLASTIC OR PVC
Casingdeep:	300	Casingwide:	8
Pumptype:	SUBMERSIBLE	Pumppower:	ELECTRIC MOTOR 1 - 5 HP
Pumprate:	12	Testrate:	0
Drawdown:	0	Drilllog:	X
Lastname:	PAYNE, THOMAS,W	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 9878		
City:	ASPEN	State:	CO
Zipcode:	81611	Cancelled:	Not Reported

Driller:	127
Company:	SPUR CROSS DEVELOPMENT, INC.
Address:	38219 N. 3RD AVENUE DESERT HILLS, AZ 85027

I22 **SW** **1/2 - 1 Mile** **Lower**	**FED USGS**	**334930111543001**

BASIC WELL DATA

Site Type:	Single well, other than collector or Ranney type		
Year Constructed:	Not Reported	County:	Maricopa
Altitude:	2440.00 ft.	State:	Arizona
Well Depth:	535.00 ft.	Topographic Setting:	Not Reported
Depth to Water Table:	104.00 ft.	Prim. Use of Site:	Withdrawal of water
Date Measured:	04011969	Prim. Use of Water:	Public supply

I23 **SW** **1/2 - 1 Mile** **Lower**	**AZ WELLS**	**AZWR604780**

Registryid:	604780	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	35	Acre160:	NE
Acre40:	NE	Acre10:	SE
Utmx:	415885.9	Utmy:	3742991.5
Welltype:	NON-EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	MUNICIPAL
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	01/01/1961 00:00:00
Driller:	0	Welldepth:	535
Waterlevel:	132	Casingtype:	STEEL - PERFORATED OR SLOTTED CASING
Casingdeep:	535	Casingwide:	16
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	140	Testrate:	140
Drawdown:	0	Drilllog:	Not Reported
Lastname:	CAREFREE WATER CO,	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 702		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported

Registryid:	604780	Pump1984:	122.1
Pump1985:	137.84	Pump1986:	22.76
Pump1987:	.5	Pump1988:	.09
Pump1989:	20.66	Pump1990:	39.9
Pump1991:	21.4	Pump1992:	14.33
Pump1993:	9.54	Pump1994:	24.34
Pump1995:	36.77	Pump1996:	31.92
Pump1997:	27.93	Pump1998:	18.25
Pump1999:	11.88	Pumptotal:	540.27

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported
	AZ

24
North
1/2 - 1 Mile
Higher

AZ WELLS **AZWR567962**

Registryid:	567962	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	24	Acre160:	SE
Acre40:	SW	Acre10:	NE
Utmx:	417118.3	Utmy:	3745188.4
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported

Approved:	Not Reported	Installed:	06/09/1998 00:00:00
Driller:	127	Welldepth:	460
Waterlevel:	320	Casingtype:	PLASTIC OR PVC
Casingdeep:	140	Casingwide:	5
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drilllog:	X
Lastname:	WHITE	Firstname:	ROBERT B
Company:	Not Reported		
Address:	P O BOX 1103		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported

Driller:	127
Company:	SPUR CROSS DEVELOPMENT, INC.
Address:	38219 N. 3RD AVENUE DESERT HILLS, AZ 85027

H25
West
1/2 - 1 Mile
Lower

AZ WELLS **AZWR806754**

Registryid:	806754	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SE
Acre40:	Not Reported	Acre10:	Not Reported
Utmx:	415590.2	Utmy:	3743695.5
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	12/31/1979 00:00:00
Driller:	0	Welldepth:	0
Waterlevel:	0	Casingtype:	Not Reported
Casingdeep:	0	Casingwide:	0
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drilllog:	Not Reported
Lastname:	NICKOLSON, WILLIAM,J	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 5335		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported AZ

Map ID Direction Distance Elevation	Database	EDR ID Number
H26 **West** **1/2 - 1 Mile** **Lower**	**AZ WELLS**	**AZWR602366**

Registryid:	602366	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SE
Acre40:	Not Reported	Acre10:	Not Reported
Utmx:	415590.2	Utmy:	3743695.5
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	01/01/1972 00:00:00
Driller:	0	Welldepth:	650
Waterlevel:	0	Casingtype:	Not Reported
Casingdeep:	0	Casingwide:	0
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	30	Testrate:	30
Drawdown:	0	Drilllog:	Not Reported
Lastname:	GALLOWAY,H R	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 2383		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported AZ

H27 **West** **1/2 - 1 Mile** **Lower**		**AZ WELLS**	**AZWR648169**

Registryid:	648169	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SE
Acre40:	Not Reported	Acre10:	Not Reported
Utmx:	415590.2	Utmy:	3743695.5
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported

Approved:	Not Reported	Installed:	01/01/1957 00:00:00
Driller:	0	Welldepth:	250
Waterlevel:	225	Casingtype:	OTHER - BLACK STEEL - IRON - SEAMLESS
Casingdeep:	0	Casingwide:	4
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	1	Testrate:	1
Drawdown:	0	Drillog:	Not Reported
Lastname:	MC CLLWAIN,R	Firstname:	Not Reported
Company:	Not Reported		
Address:	BOX 2002		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported
	AZ

G28
SSE
1/2 - 1 Mile
Higher

AZ WELLS **AZWR606413**

Registryid:	606413	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	5	Eastwest:	E
Section:	31	Acre160:	NW
Acre40:	SW	Acre10:	SW
Utmx:	417693.5	Utmy:	3742575.3
Welltype:	SERVICE	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	12/21/1972 00:00:00
Driller:	0	Welldepth:	1500
Waterlevel:	259	Casingtype:	STEEL - PERFORATED OR SLOTTED CASING
Casingdeep:	1500	Casingwide:	12
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	800	Testrate:	800
Drawdown:	0	Drillog:	Not Reported
Lastname:	SCOTTSDALE, CITY OF,	Firstname:	Not Reported
Company:	Not Reported		
Address:	9388 E SAN SALVADOR		
City:	SCOTTSDALE	State:	AZ
Zipcode:	85258	Cancelled:	Not Reported

Registryid:	606413	Pump1984:	0
Pump1985:	6	Pump1986:	556
Pump1987:	555.97	Pump1988:	241.48
Pump1989:	681.2	Pump1990:	635.2
Pump1991:	690.34	Pump1992:	501.82
Pump1993:	128.76	Pump1994:	155
Pump1995:	0	Pump1996:	0
Pump1997:	349.68	Pump1998:	350.16
Pump1999:	468.22	Pumptotal:	5887.94

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported
	AZ

G29
SSE
1/2 - 1 Mile
Higher

AZ WELLS **AZWR511364**

Registryid:	511364	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	5	Eastwest:	E
Section:	31	Acre160:	NW
Acre40:	SW	Acre10:	SW
Utmx:	417693.5	Utmy:	3742575.3
Welltype:	NON-SERVICE	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	RECREATION
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	12/21/1978 00:00:00
Driller:	0	Welldepth:	1500
Waterlevel:	259	Casingtype:	Not Reported
Casingdeep:	1500	Casingwide:	12
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drilllog:	N
Lastname:	SONORA DEVL CO # 274,	Firstname:	Not Reported
Company:	Not Reported		
Address:	7373 N SCOTTSDALE RD		
City:	SCOTTSDALE	State:	AZ
Zipcode:	85253	Cancelled:	Y

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported
	AZ

J30
NNE
1/2 - 1 Mile
Higher

AZ WELLS **AZWR542920**

Registryid:	542920	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	24	Acre160:	SE
Acre40:	SE	Acre10:	NE
Utmx:	417522.5	Utmy:	3745185.8
Welltype:	DOMESTIC STOCK EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported

Approved:	Not Reported	Installed:	10/28/1994 00:00:00
Driller:	355	Welldepth:	300
Waterlevel:	0	Casingtype:	STEEL - PERFORATED OR SLOTTED CASING
Casingdeep:	300	Casingwide:	8
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drilllog:	X
Lastname:	GALLOWAY, KENNETH,R	Firstname:	Not Reported
Company:	Not Reported		
Address:	10065 E BECKER LN		
City:	SCOTTSDALE	State:	AZ
Zipcode:	85260	Cancelled:	Not Reported

Driller:	355
Company:	BEEMAN BROTHERS DRILLING, INC.
Address:	44806 N. 14TH STREET NEW RIVER, AZ 85087

J31
NNE
1/2 - 1 Mile
Higher

AZ WELLS **AZWR572242**

Registryid:	572242	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	24	Acre160:	SE
Acre40:	SE	Acre10:	NE
Utmx:	417522.5	Utmy:	3745185.8
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	01/22/1999 00:00:00
Driller:	608	Welldepth:	190
Waterlevel:	100	Casingtype:	PLASTIC OR PVC
Casingdeep:	190	Casingwide:	8
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drilllog:	X
Lastname:	WALDERSEN	Firstname:	KEITH
Company:	Not Reported		
Address:	PO BOX 2311		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported

Driller:	608
Company:	RAINBOW DRILLING
Address:	8005 W. PATRICK LANE PEORIA, AZ 85382

Map ID Direction Distance Elevation	Database	EDR ID Number
H32 **West** **1/2 - 1 Mile** **Lower**	**AZ WELLS**	**AZWR508721**

Registryid:	508721	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SE
Acre40:	SW	Acre10:	NE
Utmx:	415489.4	Utmy:	3743595.9
Welltype:	DOMESTIC STOCK EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	02/21/1985 00:00:00
Driller:	127	Welldepth:	290
Waterlevel:	200	Casingtype:	PLASTIC OR PVC
Casingdeep:	280	Casingwide:	8
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drilllog:	X
Lastname:	BOHANNAN JR,B	Firstname:	Not Reported
Company:	Not Reported		
Address:	7000 E BERNEIL DR		
City:	SCOTTSDALE	State:	AZ
Zipcode:	85253	Cancelled:	Not Reported

Driller:	127
Company:	SPUR CROSS DEVELOPMENT, INC.
Address:	38219 N. 3RD AVENUE DESERT HILLS, AZ 85027

H33 **West** **1/2 - 1 Mile** **Lower**	**AZ WELLS**	**AZWR628046**

Registryid:	628046	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SE
Acre40:	SW	Acre10:	NE
Utmx:	415489.4	Utmy:	3743595.9
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported

Approved:	Not Reported	Installed:	01/01/1973 00:00:00
Driller:	0	Welldepth:	0
Waterlevel:	0	Casingtype:	Not Reported
Casingdeep:	0	Casingwide:	0
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drilllog:	Not Reported
Lastname:	DESZENDEFFY,R	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 556		
City:	LINCOLN PARK	State:	NJ
Zipcode:	07035	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported AZ

34
SE
1/2 - 1 Mile
Higher

AZ WELLS AZWR577141

Registryid:	577141	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	5	Eastwest:	E
Section:	31	Acre160:	NW
Acre40:	SW	Acre10:	SE
Utmx:	417894.2	Utmy:	3742571.9
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	08/31/2000 00:00:00
Driller:	200	Welldepth:	504
Waterlevel:	410	Casingtype:	STEEL - PERFORATED OR SLOTTED CASING
Casingdeep:	504	Casingwide:	6
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drilllog:	X
Lastname:	BROWN	Firstname:	ROGER
Company:	Not Reported		
Address:	PO BOX 5006		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported

Driller:	200
Company:	SOUTHLAND WELL DRILLING
Address:	38916 W. SALOME HWY. TONOPAH, AZ 85354

Map ID Direction Distance Elevation		Database	EDR ID Number
K35 **WSW** **1/2 - 1 Mile** **Lower**		**AZ WELLS**	**AZWR800671**

Registryid:	800671	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SE
Acre40:	SW	Acre10:	SE
Utmx:	415487.8	Utmy:	3743395.6
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	STOCK	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	Not Reported
Driller:	0	Welldepth:	0
Waterlevel:	0	Casingtype:	Not Reported
Casingdeep:	0	Casingwide:	0
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drillog:	Not Reported
Lastname:	COMICK, MICHAEL,E	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 2793		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported AZ

K36 **WSW** **1/2 - 1 Mile** **Lower**		**AZ WELLS**	**AZWR514904**

Registryid:	514904	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SE
Acre40:	SW	Acre10:	SE
Utmx:	415487.8	Utmy:	3743395.6
Welltype:	DOMESTIC STOCK EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported

Approved:	Not Reported	Installed:	07/25/1986 00:00:00
Driller:	127	Welldepth:	300
Waterlevel:	70	Casingtype:	PLASTIC OR PVC
Casingdeep:	300	Casingwide:	8
Pumptype:	SUBMERSIBLE	Pumppower:	ELECTRIC MOTOR 1 - 5 HP
Pumprate:	27	Testrate:	30
Drawdown:	0	Drilllog:	X
Lastname:	THREADGILL, SELMAN,	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 2303		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported

Driller:	127
Company:	SPUR CROSS DEVELOPMENT, INC.
Address:	38219 N. 3RD AVENUE DESERT HILLS, AZ 85027

37
SW
1/2 - 1 Mile
Lower

FED USGS **334918111542801**

BASIC WELL DATA

Site Type:	Single well, other than collector or Ranney type		
Year Constructed:	1972	County:	Maricopa
Altitude:	2455.00 ft.	State:	Arizona
Well Depth:	385.00 ft.	Topographic Setting:	Not Reported
Depth to Water Table:	105.00 ft.	Prim. Use of Site:	Not Reported
Date Measured:	04011972	Prim. Use of Water:	Not Reported

GEOCHECK®- PHYSICAL SETTING SOURCE MAP FINDINGS
RADON

AREA RADON INFORMATION

Federal EPA Radon Zone for MARICOPA County: 2

Note: Zone 1 indoor average level > 4 pCi/L.
: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
: Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for MARICOPA COUNTY, AZ

Number of sites tested: 695

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	1.697 pCi/L	93%	7%	0%
Living Area - 2nd Floor	3.640 pCi/L	80%	20%	0%
Basement	2.242 pCi/L	79%	21%	0%

PHYSICAL SETTING SOURCE RECORDS SEARCHED

HYDROLOGIC INFORMATION

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 1999 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002 from the U.S. Fish and Wildlife Service.

HYDROGEOLOGIC INFORMATION

AQUIFLOW[R] Information System
Source: EDR proprietary database of groundwater flow information
EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit
Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database
The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the national Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

ADDITIONAL ENVIRONMENTAL RECORD SOURCES

FEDERAL WATER WELLS

PWS: Public Water Systems
Source: EPA/Office of Drinking Water
Telephone: 202-260-2805
Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data
Source: EPA/Office of Drinking Water
Telephone: 202-260-2805
Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: In November 1971 the United States Geological Survey (USGS) implemented a national water resource information tracking system. This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on more than 900,000 wells, springs, and other sources of groundwater.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

STATE RECORDS

Arizona Well Registration Database
Source: Department of Water Resources
Telephone: 602-771-1586
Contains information provided to ADWR's Operations Division by well drillers and/or owners.

RADON

Area Radon Information
Source: USGS
Telephone: 303-202-4210
The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones
Source: EPA
Telephone: 202-564-9370
Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

OTHER

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

EDR Radius Map with GeoCheck Inquiry Number 896955.5s

The EDR Radius Map
with GeoCheck®

Carefree Drainage Master Plan
213
Carefree, AZ 85377

Inquiry Number: 896955.5s

January 08, 2003

Environmental Data Resources, Inc.

The Source For Environmental Risk Management Data

3530 Post Road
Southport, Connecticut 06890

Nationwide Customer Service

Telephone: 1-800-352-0050
Fax: 1-800-231-6802
Internet: www.edrnet.com

FORM-ACP

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Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc. (EDR). The report meets the government records search requirements of ASTM Standard Practice for Environmental Site Assessments, E 1527-00. Search distances are per ASTM standard or custom distances requested by the user.

TARGET PROPERTY INFORMATION

ADDRESS

213
CAREFREE, AZ 85377

COORDINATES

Latitude (North):	33.825900 - 33˚ 49' 33.2"
Longitude (West):	111.917300 - 111˚ 55' 2.3"
Universal Tranverse Mercator:	Zone 12
UTM X (Meters):	415113.6
UTM Y (Meters):	3743036.8

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property:	2433111-G8 CAVE CREEK, AZ
Source:	USGS 7.5 min quad index

TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the ASTM E 1527-00 search radius around the target property for the following databases:

FEDERAL ASTM STANDARD

NPL..... National Priority List
Proposed NPL..... Proposed National Priority List Sites
CERCLIS..... Comprehensive Environmental Response, Compensation, and Liability Information System
CERC-NFRAP..... CERCLIS No Further Remedial Action Planned
CORRACTS..... Corrective Action Report
RCRIS-TSD..... Resource Conservation and Recovery Information System
RCRIS-LQG..... Resource Conservation and Recovery Information System
RCRIS-SQG..... Resource Conservation and Recovery Information System
ERNS..... Emergency Response Notification System

STATE ASTM STANDARD

SPL..... Superfund Program List
SHWS..... ZipAcids List
SWF/LF..... Directory of Solid Waste Facilities
AZ WQARF..... Water Quality Assurance Revolving Fund Sites

EXECUTIVE SUMMARY

INDIAN UST..... Underground Storage Tanks on Indian Land

FEDERAL ASTM SUPPLEMENTAL

CONSENT..... Superfund (CERCLA) Consent Decrees
ROD..... Records Of Decision
Delisted NPL..... National Priority List Deletions
FINDS..... Facility Index System/Facility Identification Initiative Program Summary Report
HMIRS..... Hazardous Materials Information Reporting System
MLTS..... Material Licensing Tracking System
MINES..... Mines Master Index File
NPL Liens..... Federal Superfund Liens
PADS..... PCB Activity Database System
RAATS..... RCRA Administrative Action Tracking System
TRIS..... Toxic Chemical Release Inventory System
TSCA..... Toxic Substances Control Act
SSTS..... Section 7 Tracking Systems
FTTS..... FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

STATE OR LOCAL ASTM SUPPLEMENTAL

AST..... List of Aboveground Storage Tanks
AZ Spills..... Hazardous Material Logbook
AZ DOD..... Department of Defense Sites
WWFAC..... Waste Water Treatment Facilities
Aquifer..... Waste Water Treatment Facilities
Dry Wells..... Drywell Registration
AZ AIRS..... Arizona Airs Database

EDR PROPRIETARY HISTORICAL DATABASES

Coal Gas..... Former Manufactured Gas (Coal Gas) Sites

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified.

Elevations have been determined from the USGS 1 degree Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. EDR's definition of a site with an elevation equal to the target property includes a tolerance of +/- 10 feet. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property (by more than 10 feet). Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

EXECUTIVE SUMMARY

STATE ASTM STANDARD

LUST: The Leaking Underground Storage Tank Incident Reports contain an inventory of reported leaking underground storage tank incidents. The data come from the Department of Environmental Quality's LUST File Listing by Zip Code.

A review of the LUST list, as provided by EDR, and dated 10/30/2002 has revealed that there is 1 LUST site within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Dist / Dir	Map ID	Page
AVANKIS/CAREFREE SHELL	***7201 E CAVE CREEK RD***	***1/4 - 1/2 S***	***2***	***6***

UST: The Underground Storage Tank database contains registered USTs. USTs are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA). The data come from the Department of Environmental Quality's Arizona UST-DMS Facility and Tank Data Listing by City database.

A review of the UST list, as provided by EDR, and dated 02/06/2002 has revealed that there is 1 UST site within approximately 0.25 miles of the target property.

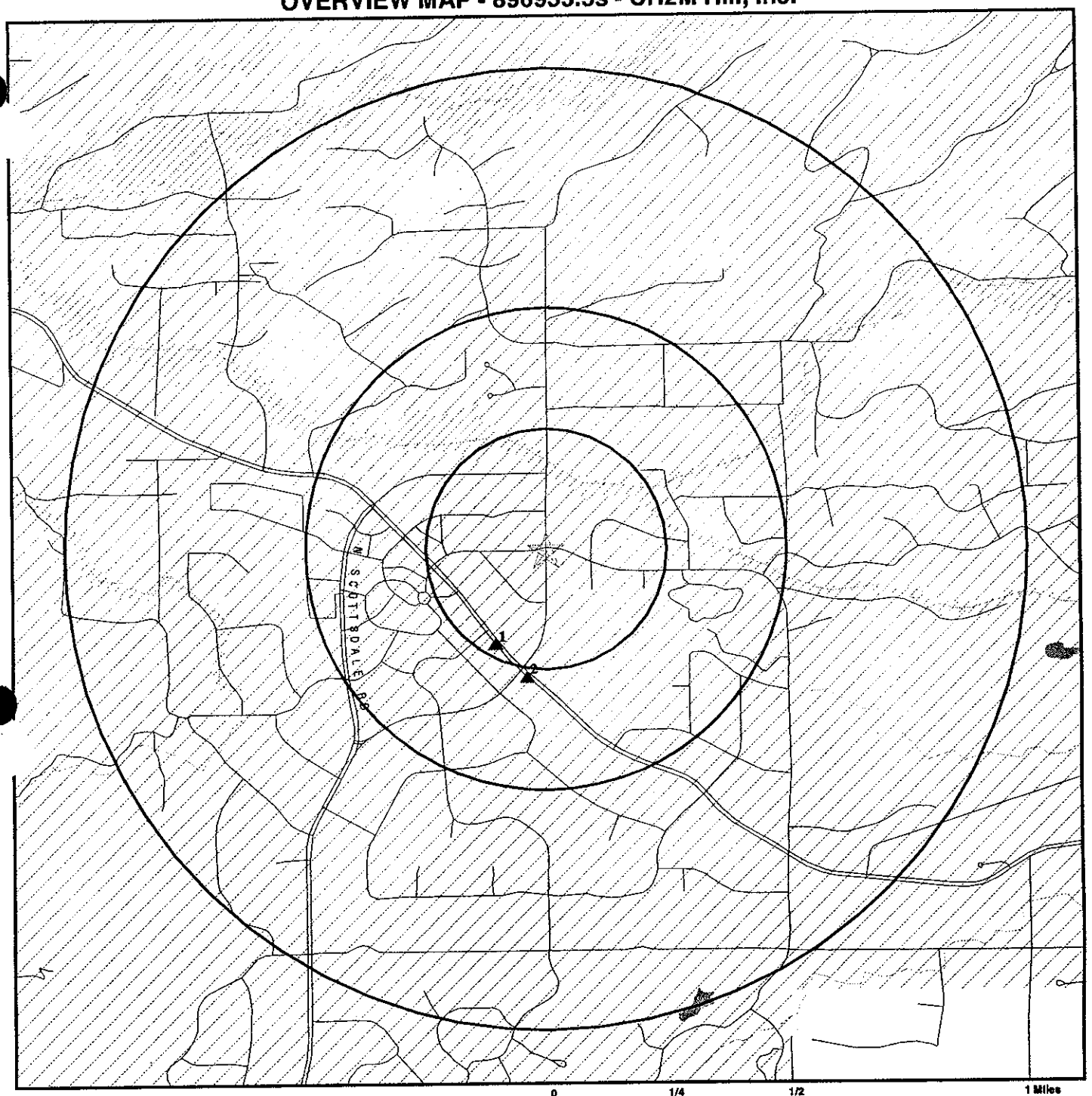
Equal/Higher Elevation	Address	Dist / Dir	Map ID	Page
CAVE CREEK MAIN CO #143040	7153 CAVE CREEK RD	1/8 - 1/4 SSW	1	6

EXECUTIVE SUMMARY

Due to poor or inadequate address information, the following sites were not mapped:

Site Name	Database(s)
CAVE CREEK LDFL	CERC-NFRAP
BUCKEYE	SWF/LF, WWFAC
CITY OF GLENDALE	SWF/LF
ALLIED	SWF/LF
K & B TIRE CO.	SWF/LF
NORTHWEST REGIONAL	SWF/LF
ESTES	SWF/LF
AVONDALE	SWF/LF
CITY OF TEMPE	SWF/LF
40TH STREET LANDFILL	SWF/LF
CHANDLER INT. #2 INTERIM	SWF/LF
CITY OF PHOENIX 91ST AVE.	SWF/LF
27TH AVENUE	SWF/LF
DEER VALLEY LANDFILL	SWF/LF
LONE CACTUS LANDFILL	SWF/LF
PERRYVILLE	SWF/LF
CAVE CREEK, TOWN OF WWTP	Aquifer, WWFAC
CAMP CREEK - TONTO NATIONAL FOREST	WWFAC
AT&T CAVE CREEK RS	UST
AT&T COMMUNICATIONS	UST
CAREFREE CLEANERS	RCRIS-SQG, FINDS
JANSON CLEANERS	RCRIS-SQG, FINDS

OVERVIEW MAP - 896955.5s - CH2M Hill, Inc.



0 1/4 1/2 1 Miles

- ☆ Target Property
- ▲ Sites at elevations higher than or equal to the target property
- ◆ Sites at elevations lower than the target property
- ♟ Coal Gasification Sites
- National Priority List Sites
- Landfill Sites
- Power transmission lines
- Oil & Gas pipelines
- 100-year flood zone
- 500-year flood zone
- Dept. of Defense Sites
- Water Quality Assurance Revolving Fund Areas

TARGET PROPERTY:	Carefree Drainage Master Plan	CUSTOMER:	CH2M Hill, Inc.
ADDRESS:	213	CONTACT:	Monique Chaisson
CITY/STATE/ZIP:	Carefree AZ 85377	INQUIRY #:	896955.5s
LAT/LONG:	33.8259 / 111.9173	DATE:	January 08, 2003 3:24 pm

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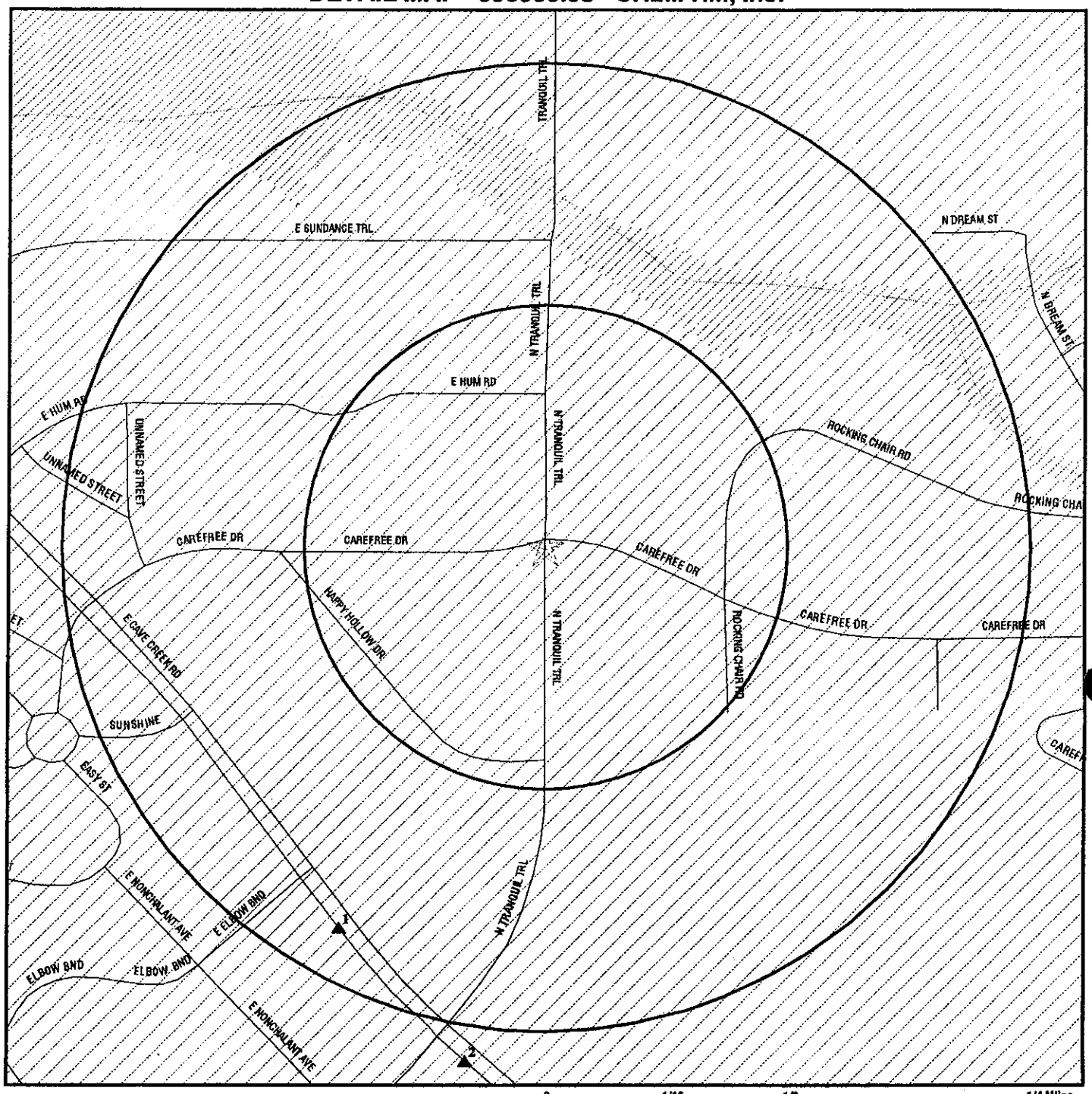
DETAIL MAP - 896955.5s - CH2M Hill, Inc.



0 1/16 1/8 1/4 Miles

- ★ Target Property
- ▲ Sites at elevations higher than or equal to the target property
- ◆ Sites at elevations lower than the target property
- Coal Gasification Sites
- Sensitive Receptors
- National Priority List Sites
- Landfill Sites
- Power transmission lines
- Oil & Gas pipelines
- 100-year flood zone
- 500-year flood zone
- Dept. of Defense Sites
- Water Quality Assurance Revolving Fund Areas

TARGET PROPERTY:	Carefree Drainage Master Plan	CUSTOMER:	CH2M Hill, Inc.
ADDRESS:	213	CONTACT:	Monique Chaisson
CITY/STATE/ZIP:	Carefree AZ 85377	INQUIRY #:	896955.5s
LAT/LONG:	33.8259 / 111.9173	DATE:	January 08, 2003 3:24 pm

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MAP FINDINGS SUMMARY

Database	Target Property	Search Distance (Miles)	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
FEDERAL ASTM STANDARD								
NPL		1.000	0	0	0	0	NR	0
Proposed NPL		1.000	0	0	0	0	NR	0
CERCLIS		0.500	0	0	0	NR	NR	0
CERC-NFRAP		0.250	0	0	NR	NR	NR	0
CORRACTS		1.000	0	0	0	0	NR	0
RCRIS-TSD		0.500	0	0	0	NR	NR	0
RCRIS Lg. Quan. Gen.		0.250	0	0	NR	NR	NR	0
RCRIS Sm. Quan. Gen.		0.250	0	0	NR	NR	NR	0
ERNS		TP	NR	NR	NR	NR	NR	0
STATE ASTM STANDARD								
SPL		1.000	0	0	0	0	NR	0
State Haz. Waste		1.000	0	0	0	0	NR	0
State Landfill		0.500	0	0	0	NR	NR	0
LUST		0.500	0	0	1	NR	NR	1
UST		0.250	0	1	NR	NR	NR	1
AZ WQARF		1.000	0	0	0	0	NR	0
INDIAN UST		0.250	0	0	NR	NR	NR	0
FEDERAL ASTM SUPPLEMENTAL								
CONSENT		1.000	0	0	0	0	NR	0
ROD		1.000	0	0	0	0	NR	0
Delisted NPL		1.000	0	0	0	0	NR	0
FINDS		TP	NR	NR	NR	NR	NR	0
HMIRS		TP	NR	NR	NR	NR	NR	0
MLTS		TP	NR	NR	NR	NR	NR	0
MINES		0.250	0	0	NR	NR	NR	0
NPL Liens		TP	NR	NR	NR	NR	NR	0
PADS		TP	NR	NR	NR	NR	NR	0
RAATS		TP	NR	NR	NR	NR	NR	0
TRIS		TP	NR	NR	NR	NR	NR	0
TSCA		TP	NR	NR	NR	NR	NR	0
SSTS		TP	NR	NR	NR	NR	NR	0
FTTS		TP	NR	NR	NR	NR	NR	0
STATE OR LOCAL ASTM SUPPLEMENTAL								
AST		TP	NR	NR	NR	NR	NR	0
AZ Spills		TP	NR	NR	NR	NR	NR	0
AZ DOD		0.500	0	0	0	NR	NR	0
WWFAC		0.500	0	0	0	NR	NR	0
Aquifer		TP	NR	NR	NR	NR	NR	0
Dry Wells		TP	NR	NR	NR	NR	NR	0
AZ AIRS		TP	NR	NR	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Target Property	Search Distance (Miles)	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
EDR PROPRIETARY HISTORICAL DATABASES								
Coal Gas		1.000	0	0	0	0	NR	0
AQUIFLOW - see EDR Physical Setting Source Addendum								

TP = Target Property

NR = Not Requested at this Search Distance

* Sites may be listed in more than one database

Coal Gas Site Search: No site was found in a search of Real Property Scan's ENVIROHAZ database.

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1 SSW 1/8-1/4 1180 ft. Higher

CAVE CREEK MAIN CO #143040
7153 CAVE CREEK RD
CAVE CREEK, AZ 85331

UST U003051765
N/A

UST:

Facility ID:	0-003402	Tank ID:	1.00000
In Use:	False		
Date Removed:	09/01/1990		
Date Closed:	/ /		
In Use:	False		

---

2 South 1/4-1/2 1415 ft. Higher

AVANKIS/CAREFREE SHELL
7201 E CAVE CREEK RD
CAREFREE, AZ 85377

LUST U003229049
UST N/A

LUST:

Facility ID:	0-005635
Lust Number:	3835.01
Leak Priority:	CLOSED SOIL LVL MEETS TIER1
Notification:	12/21/1994
Date Closed:	03/31/2000

Facility ID:	0-005635
Lust Number:	3835.02
Leak Priority:	UNDEFINED OR UNKNOWN SOIL CONTAMINATION
Notification:	12/21/1994
Date Closed:	Not reported

UST:

Facility ID:	0-005635	Tank ID:	1.00000
In Use:	True		
Date Removed:	/ /		
Date Closed:	/ /		
In Use:	True		
Facility ID:	0-005635	Tank ID:	2.00000
In Use:	True		
Date Removed:	/ /		
Date Closed:	/ /		
In Use:	True		
Facility ID:	0-005635	Tank ID:	3.00000
In Use:	False		
Date Removed:	12/08/1994		
Date Closed:	/ /		
In Use:	False		
Facility ID:	0-005635	Tank ID:	4.00000
In Use:	True		
Date Removed:	/ /		
Date Closed:	/ /		
In Use:	True		

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
CAREFREE	1000202304	CAREFREE CLEANERS	36889 N TOM DARLINGTON DR	85377	RCRIS-SQG, FINDS
CAVE CREEK	1001486731	JANSON CLEANERS	29606 N CAVE CREEK RD STE 106	85331	RCRIS-SQG, FINDS
CAVE CREEK	U001628484	AT&T CAVE CREEK RS	6.5 MI E OF CAVE CREEK BARLETT	85331	UST
CAVE CREEK	1003878171	CAVE CREEK LDFL	1 1/2 MI W OF CAREFREE HWY	85331	CERC-NFRAP
CAVE CREEK	U003547335	AT&T COMMUNICATIONS	6.2 MILES E OF CAVE CREEK	85331	UST
CAVE CREEK	S102787860	CAVE CREEK, TOWN OF WWTP	5600 E. RANCHO MANANA BLV	85331	Aquifer, WWFAC
MARICOPA COUNTY	S103277326	BUCKEYE	AT MILLER RD. AND GILA RIVER		SWF/LF, WWFAC
MARICOPA COUNTY	S103894996	CITY OF GLENDALE	NORTHSIDE OF GLENDALE AVE.EAST		SWF/LF
MARICOPA COUNTY	S100240624	ALLIED	SOUTH OF INDIAN SCHOOL RD, WES		SWF/LF
MARICOPA COUNTY	S103894998	K & B TIRE CO.	SOUTH OF MC DOWELL RD. BETWEEN		SWF/LF
MARICOPA COUNTY	S103895002	NORTHWEST REGIONAL	SOUTH OF 195TH AVE AND DEER VA		SWF/LF
MARICOPA COUNTY	S103895114	ESTES	EAST SIDE OF 40TH ST. SOUTH OF		SWF/LF
MARICOPA COUNTY	S103895105	AVONDALE	NORTH SIDE OF INTERSECTION OF		SWF/LF
MARICOPA COUNTY	S103895112	CITY OF TEMPE	SOUTH SIDE OF SALT RIVER ON HA		SWF/LF
MARICOPA COUNTY	S100293345	40TH STREET LANDFILL	NO. SIDE OF MAGNOLIA, .25 MLS.		SWF/LF
MARICOPA COUNTY	S103086789	CHANDLER INT. #2 INTERIM	SOUTH SIDE OF QUEEN CREEK RD.		SWF/LF
MARICOPA COUNTY	S103895111	CITY OF PHOENIX 91ST AVE.	WEST SIDE OF 91ST. AVE.		SWF/LF
MARICOPA COUNTY	S100293344	27TH AVENUE	THE SOUTHWEST CORNER OF 27TH A		SWF/LF
MARICOPA COUNTY	S100293350	DEER VALLEY LANDFILL	THE SOUTHWEST CORNER OF 16TH S		SWF/LF
MARICOPA COUNTY	S100293354	LONE CACTUS LANDFILL	ON THE N WEST CORNER OF 7TH ST		SWF/LF
MARICOPA COUNTY	S103895121	PERRYVILLE	YUMA RD. EAST OF LUKE AIR FORC		SWF/LF
SCOTTSDALE	S103277359	CAMP CREEK - TONTO NATIONAL FOREST	40202 NORTH CAVE CREEK RO	85262	WWFAC

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Elapsed ASTM days: Provides confirmation that this EDR report meets or exceeds the 90-day updating requirement of the ASTM standard.

FEDERAL ASTM STANDARD RECORDS

NPL: National Priority List
Source: EPA
Telephone: N/A
National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 10/24/02
Date Made Active at EDR: 12/09/02
Database Release Frequency: Semi-Annually
Date of Data Arrival at EDR: 11/04/02
Elapsed ASTM days: 35
Date of Last EDR Contact: 11/04/02

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 3
Telephone 215-814-5418

EPA Region 4
Telephone 404-562-8033

EPA Region 6
Telephone: 214-655-6659

EPA Region 8
Telephone: 303-312-6774

Proposed NPL: Proposed National Priority List Sites
Source: EPA
Telephone: N/A

Date of Government Version: 10/24/02
Date Made Active at EDR: 12/09/02
Database Release Frequency: Semi-Annually
Date of Data Arrival at EDR: 11/04/02
Elapsed ASTM days: 35
Date of Last EDR Contact: 11/04/02

CERCLIS: Comprehensive Environmental Response, Compensation, and Liability Information System
Source: EPA
Telephone: 703-413-0223
CERCLIS contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). CERCLIS contains sites which are either proposed to or on the National Priorities List (NPL) and sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 08/15/02
Date Made Active at EDR: 10/28/02
Database Release Frequency: Quarterly
Date of Data Arrival at EDR: 09/23/02
Elapsed ASTM days: 35
Date of Last EDR Contact: 12/26/02

CERCLIS-NFRAP: CERCLIS No Further Remedial Action Planned
Source: EPA
Telephone: 703-413-0223
As of February 1995, CERCLIS sites designated "No Further Remedial Action Planned" (NFRAP) have been removed from CERCLIS. NFRAP sites may be sites where, following an initial investigation, no contamination was found, contamination was removed quickly without the need for the site to be placed on the NPL, or the contamination was not serious enough to require Federal Superfund action or NPL consideration. EPA has removed approximately 25,000 NFRAP sites to lift the unintended barriers to the redevelopment of these properties and has archived them as historical records so EPA does not needlessly repeat the investigations in the future. This policy change is part of the EPA's Brownfields Redevelopment Program to help cities, states, private investors and affected citizens to promote economic redevelopment of unproductive urban sites.

Date of Government Version: 09/15/02
Date Made Active at EDR: 10/28/02
Database Release Frequency: Quarterly
Date of Data Arrival at EDR: 10/03/02
Elapsed ASTM days: 25
Date of Last EDR Contact: 12/26/02

CORRACTS: Corrective Action Report
Source: EPA
Telephone: 800-424-9346
CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 09/29/02
Date Made Active at EDR: 12/26/02
Database Release Frequency: Semi-Annually
Date of Data Arrival at EDR: 10/15/02
Elapsed ASTM days: 72
Date of Last EDR Contact: 12/09/02

RCRIS: Resource Conservation and Recovery Information System
Source: EPA/NTIS
Telephone: 800-424-9346
Resource Conservation and Recovery Information System. RCRIS includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA).

Date of Government Version: 09/09/02
Date Made Active at EDR: 10/28/02
Database Release Frequency: Varies
Date of Data Arrival at EDR: 09/24/02
Elapsed ASTM days: 34
Date of Last EDR Contact: 12/26/02

ERNS: Emergency Response Notification System
Source: EPA/NTIS
Telephone: 202-260-2342
Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 12/31/01
Date Made Active at EDR: 07/15/02
Database Release Frequency: Varies
Date of Data Arrival at EDR: 07/02/02
Elapsed ASTM days: 13
Date of Last EDR Contact: 10/28/02

FEDERAL ASTM SUPPLEMENTAL RECORDS

BRS: Biennial Reporting System
Source: EPA/NTIS
Telephone: 800-424-9346
The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/99
Database Release Frequency: Biennially
Date of Last EDR Contact: 12/17/02
Date of Next Scheduled EDR Contact: 03/17/03

CONSENT: Superfund (CERCLA) Consent Decrees
Source: EPA Regional Offices
Telephone: Varies
Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: N/A
Database Release Frequency: Varies
Date of Last EDR Contact: N/A
Date of Next Scheduled EDR Contact: N/A

ROD: Records Of Decision
Source: EPA
Telephone: 703-416-0223
Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 12/21/01
Database Release Frequency: Annually

Date of Last EDR Contact: 10/07/02
Date of Next Scheduled EDR Contact: 01/06/03

DELISTED NPL: National Priority List Deletions
Source: EPA
Telephone: N/A
The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 10/18/02
Database Release Frequency: Quarterly

Date of Last EDR Contact: 11/04/02
Date of Next Scheduled EDR Contact: 02/03/03

FINDS: Facility Index System/Facility Identification Initiative Program Summary Report
Source: EPA
Telephone: N/A
Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 10/10/02
Database Release Frequency: Quarterly

Date of Last EDR Contact: 10/07/02
Date of Next Scheduled EDR Contact: 01/06/03

HMIRS: Hazardous Materials Information Reporting System
Source: U.S. Department of Transportation
Telephone: 202-366-4555
Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 07/31/02
Database Release Frequency: Annually

Date of Last EDR Contact: 10/21/02
Date of Next Scheduled EDR Contact: 01/20/03

MLTS: Material Licensing Tracking System
Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 10/21/02
Database Release Frequency: Quarterly

Date of Last EDR Contact: 10/08/02
Date of Next Scheduled EDR Contact: 01/06/03

MINES: Mines Master Index File
Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959

Date of Government Version: 09/10/02
Database Release Frequency: Semi-Annually

Date of Last EDR Contact: 01/03/03
Date of Next Scheduled EDR Contact: 03/31/03

NPL LIENS: Federal Superfund Liens
Source: EPA
Telephone: 205-564-4267
Federal Superfund Liens. Under the authority granted the USEPA by the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner receives notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/91
Database Release Frequency: No Update Planned
Date of Last EDR Contact: 11/25/02
Date of Next Scheduled EDR Contact: 02/24/03

PADS: PCB Activity Database System
Source: EPA
Telephone: 202-564-3887
PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 09/20/02
Database Release Frequency: Annually
Date of Last EDR Contact: 11/13/02
Date of Next Scheduled EDR Contact: 02/10/03

RAATS: RCRA Administrative Action Tracking System
Source: EPA
Telephone: 202-564-4104
RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/95
Database Release Frequency: No Update Planned
Date of Last EDR Contact: 12/10/02
Date of Next Scheduled EDR Contact: 03/10/03

TRIS: Toxic Chemical Release Inventory System
Source: EPA
Telephone: 202-260-1531
Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/00
Database Release Frequency: Annually
Date of Last EDR Contact: 12/26/02
Date of Next Scheduled EDR Contact: 03/24/03

TSCA: Toxic Substances Control Act
Source: EPA
Telephone: 202-260-5521
Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/98
Database Release Frequency: Every 4 Years
Date of Last EDR Contact: 12/10/02
Date of Next Scheduled EDR Contact: 03/10/03

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
Source: EPA
Telephone: 202-564-2501

Date of Government Version: 10/24/02
Database Release Frequency: Quarterly
Date of Last EDR Contact: 12/26/02
Date of Next Scheduled EDR Contact: 03/24/03

SSTS: Section 7 Tracking Systems
Source: EPA
Telephone: 202-564-5008
Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 12/31/00
Database Release Frequency: Annually
Date of Last EDR Contact: 10/22/02
Date of Next Scheduled EDR Contact: 01/20/03

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-564-2501
FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 10/24/02
Database Release Frequency: Quarterly
Date of Last EDR Contact: 12/26/02
Date of Next Scheduled EDR Contact: 03/24/03

STATE OF ARIZONA ASTM STANDARD RECORDS

SPL: Superfund Program List
Source: Dept. of Environmental Quality
Telephone: 602-771-4360
The list is representative of the sites and potential sites within the jurisdiction of the Superfund Program Section. It is comprised of the following elements: 1) Water Quality Assurance Revolving Fund Registry Sites; 2) Potential WQARF Registry sites; 3) NPL sites; and 4) Department of Defense sites requiring SPS oversight.

Date of Government Version: 07/15/02
Date Made Active at EDR: 10/04/02
Database Release Frequency: Semi-Annually
Date of Data Arrival at EDR: 09/03/02
Elapsed ASTM days: 31
Date of Last EDR Contact: 12/02/02

SHWS: ZipAcids List
Source: Department of Environmental Quality
Telephone: 602-771-4360
The ACIDS list consists of more than 750 locations subject to investigation under the State Water Quality Assurance Revolving Fund (WQARF) and Federal CERCLA programs. The list is no longer updated by the state.

Date of Government Version: 01/03/00
Date Made Active at EDR: 05/16/00
Database Release Frequency: No Update Planned
Date of Data Arrival at EDR: 04/11/00
Elapsed ASTM days: 35
Date of Last EDR Contact: 10/21/02

SWF/LF: Directory of Solid Waste Facilities
Source: Department of Environmental Quality
Telephone: 602-771-4132
Solid Waste Facilities/Landfill Sites. SWF/LF type records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. Depending on the state, these may be active or inactive facilities or open dumps that failed to meet RCRA Subtitle D Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 11/01/00
Date Made Active at EDR: 02/01/01
Database Release Frequency: Annually
Date of Data Arrival at EDR: 01/02/01
Elapsed ASTM days: 30
Date of Last EDR Contact: 11/15/02

LUST: Leaking Underground Storage Tank Listing
Source: Department of Environmental Quality
Telephone: 602-771-4345
Leaking Underground Storage Tank Incident Reports. LUST records contain an inventory of reported leaking underground storage tank incidents. Not all states maintain these records, and the information stored varies by state.

Date of Government Version: 10/30/02
Date Made Active at EDR: 11/25/02
Database Release Frequency: Semi-Annually
Date of Data Arrival at EDR: 11/12/02
Elapsed ASTM days: 13
Date of Last EDR Contact: 11/12/02

UST: Underground Storage Tank Listing
Source: Department of Environmental Quality
Telephone: 602-771-4345
Registered Underground Storage Tanks. UST's are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA) and must be registered with the state department responsible for administering the UST program. Available information varies by state program.

Date of Government Version: 02/06/02
Date Made Active at EDR: 04/01/02
Database Release Frequency: Annually

Date of Data Arrival at EDR: 03/11/02
Elapsed ASTM days: 21
Date of Last EDR Contact: 11/12/02

WQARF: Water Quality Assurance Revolving Fund Sites
Source: Department of Environmental Quality
Telephone: 602-771-4360
Sites which may have an actual or potential impact upon the waters of the state, cause by hazardous substances. The WQARF program provides matching funds to political subdivisions and other state agencies for clean-up activities.

Date of Government Version: 03/08/02
Date Made Active at EDR: 04/30/02
Database Release Frequency: Annually

Date of Data Arrival at EDR: 03/25/02
Elapsed ASTM days: 36
Date of Last EDR Contact: 12/27/02

INDIAN UST: Underground Storage Tanks on Indian Land
Source: EPA Region 9
Telephone: 415-972-3368

Date of Government Version: N/A
Date Made Active at EDR: N/A
Database Release Frequency: Varies

Date of Data Arrival at EDR: N/A
Elapsed ASTM days: 0
Date of Last EDR Contact: N/A

STATE OF ARIZONA ASTM SUPPLEMENTAL RECORDS

AST: List of Aboveground Storage Tanks
Source: Dept. of Building & Fire Safety
Telephone: 602-364-1003
Aboveground storage tanks that the Dept. of Building & Fire Safety have permitted.

Date of Government Version: 12/31/00
Database Release Frequency: Annually

Date of Last EDR Contact: 10/25/02
Date of Next Scheduled EDR Contact: 01/13/03

SPILLS: Hazardous Material Logbook
Source: Department of Environmental Quality
Telephone: 602-771-4153
ADEQ Emergency Response Unit. The ADEQ Emergency Response Unit documents chemical spills and incidents which are referred to the Unit. The logbook information for 1984-1986 consists of handwritten entries of the date, incident number and name of facility if known. Current logbooks are computerized and can be sorted by date, incident number, name, city (zip codes are not included), county, chemical and quantity.

Date of Government Version: 06/30/00
Database Release Frequency: Semi-Annually

Date of Last EDR Contact: 01/03/03
Date of Next Scheduled EDR Contact: 03/31/03

DOD: Department of Defense Sites
Source: Department of Environmental Quality
Telephone: 602-771-4360
These sites are federal facilities that are either being assessed for potential contamination, or have active remediation taking place on them.

Date of Government Version: 03/08/02
Database Release Frequency: Annually

Date of Last EDR Contact: 12/27/02
Date of Next Scheduled EDR Contact: 03/24/03

WWFAC: Waste Water Treatment Facilities
Source: Department of Environmental Quality
Telephone: 602-771-4623
Statewide list of waste water treatment facilities.

Date of Government Version: 12/12/00
Database Release Frequency: Varies

Date of Last EDR Contact: 11/25/02
Date of Next Scheduled EDR Contact: 02/24/03

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

AQUIFER: Waste Water Treatment Facilities
Source: Department of Environmental Quality
Telephone: 602-771-4623
Waste Water Treatment Facilities with APP (Aquifer Protection Permits.)

Date of Government Version: 11/01/01
Database Release Frequency: Semi-Annually

Date of Last EDR Contact: 10/28/02
Date of Next Scheduled EDR Contact: 01/27/03

DRY WELLS: Drywell Registration
Source: Department of Environmental Quality
Telephone: 602-771-4686
A drywell is a bored, drilled, or driven shaft or hole whose depth is greater than its width and is designed and constructed specifically for the disposal of storm water.

Date of Government Version: 09/01/02
Database Release Frequency: Semi-Annually

Date of Last EDR Contact: 12/26/02
Date of Next Scheduled EDR Contact: 03/24/03

AZ AIRS: Arizona Airs Database
Source: Department of Environmental Quality
Telephone: 602-771-2344
Arizona major (has the potential to emit over 100 tons of criteria pollutant) and minor (below 100 tons) sources.

Date of Government Version: 05/31/02
Database Release Frequency: Semi-Annually

Date of Last EDR Contact: 11/04/02
Date of Next Scheduled EDR Contact: 02/03/03

EDR PROPRIETARY HISTORICAL DATABASES

Former Manufactured Gas (Coal Gas) Sites: The existence and location of Coal Gas sites is provided exclusively to EDR by Real Property Scan, Inc. ©Copyright 1993 Real Property Scan, Inc. For a technical description of the types of hazards which may be found at such sites, contact your EDR customer service representative.

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The information contained in this report has predominantly been obtained from publicly available sources produced by entities other than Real Property Scan. While reasonable steps have been taken to insure the accuracy of this report, Real Property Scan does not guarantee the accuracy of this report. Any liability on the part of Real Property Scan is strictly limited to a refund of the amount paid. No claim is made for the actual existence of toxins at any site. This report does not constitute a legal opinion.

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

Oil/Gas Pipelines/Electrical Transmission Lines: This data was obtained by EDR from the USGS in 1994. It is referred to by USGS as GeoData Digital Line Graphs from 1:100,000-Scale Maps. It was extracted from the transportation category including some oil, but primarily gas pipelines and electrical transmission lines.

Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 1999 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: *National Wetlands Inventory. This data, available in select counties across the country,* was obtained by EDR in 2002 from the U.S. Fish and Wildlife Service.

STREET AND ADDRESS INFORMATION

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GEOCHECK ®- PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

CAREFREE DRAINAGE MASTER PLAN
213
CAREFREE, AZ 85377

TARGET PROPERTY COORDINATES

Latitude (North):	33.825901 - 33˚ 49' 33.2"
Longitude (West):	111.917297 - 111˚ 55' 2.3"
Universal Tranverse Mercator:	Zone 12
UTM X (Meters):	415113.6
UTM Y (Meters):	3743036.8

EDR's GeoCheck Physical Setting Source Addendum has been developed to assist the environmental professional with the collection of physical setting source information in accordance with ASTM 1527-00, Section 7.2.3. Section 7.2.3 requires that a current USGS 7.5 Minute Topographic Map (or equivalent, such as the USGS Digital Elevation Model) be reviewed. It also requires that one or more additional physical setting sources be sought when (1) conditions have been identified in which hazardous substances or petroleum products are likely to migrate to or from the property, and (2) more information than is provided in the current USGS 7.5 Minute Topographic Map (or equivalent) is generally obtained, pursuant to local good commercial or customary practice, to assess the impact of migration of recognized environmental conditions in connection with the property. Such additional physical setting sources generally include information about the topographic, hydrologic, hydrogeologic, and geologic characteristics of a site, and wells in the area.

Assessment of the impact of contaminant migration generally has two principle investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata. EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

TOPOGRAPHIC INFORMATION

Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

USGS TOPOGRAPHIC MAP ASSOCIATED WITH THIS SITE

Target Property: 2433111-G8 CAVE CREEK, AZ
Source: USGS 7.5 min quad index

GENERAL TOPOGRAPHIC GRADIENT AT TARGET PROPERTY

Target Property: General NNW

Source: General Topographic Gradient has been determined from the USGS 1 Degree Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

Target Property County	FEMA Flood Electronic Data
MARICOPA, AZ	YES - refer to the Overview Map and Detail Map

Flood Plain Panel at Target Property: 04013C0808G

Additional Panels in search area: 04013C0809G
04013C0820E

NATIONAL WETLAND INVENTORY

NWI Quad at Target Property	NWI Electronic Data Coverage
NOT AVAILABLE	Not Available

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Site-Specific Hydrogeological Data*:

Search Radius:	2.0 miles
Status:	Not found

AQUIFLOW®

Search Radius: 2.000 Miles.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

MAP ID	LOCATION FROM TP	GENERAL DIRECTION GROUNDWATER FLOW
Not Reported		

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

Era:	Cenozoic
System:	Quaternary
Series:	Quaternary
Code:	Q *(decoded above as Era, System & Series)*

GEOLOGIC AGE IDENTIFICATION

Category: Stratifed Sequence

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps. The following information is based on Soil Conservation Service STATSGO data.

* ©1996 Site-specific hydrogeological data gathered by CERCLIS Alerts, Inc., Bainbridge Island, WA. All rights reserved. All of the information and opinions presented are those of the cited EPA report(s), which were completed under a Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS) investigation.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Component Name: GRAN

Soil Surface Texture: very gravelly - sandy loam

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class: Well drained. Soils have intermediate water holding capacity. Depth to water table is more than 6 feet.

Hydric Status: Soil does not meet the requirements for a hydric soil.

Corrosion Potential - Uncoated Steel: HIGH

Depth to Bedrock Min: > 20 inches

Depth to Bedrock Max: > 40 inches

Soil Layer Information							
	Boundary			Classification			
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil	Permeability Rate (in/hr)	Soil Reaction (pH)
1	0 inches	1 inches	very gravelly - sandy loam	Granular materials (35 pct. or less passing No. 200), Stone Fragments, Gravel and Sand.	COURSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 6.00 Min: 2.00	Max: 8.40 Min: 7.40
2	1 inches	12 inches	very gravelly - sandy clay	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COURSE-GRAINED SOILS, Sands, Sands with fines, Clayey sand.	Max: 0.60 Min: 0.20	Max: 8.40 Min: 7.40
3	12 inches	36 inches	weathered bedrock	Not reported	Not reported	Max: 0.00 Min: 0.00	Max: 0.00 Min: 0.00
4	36 inches	40 inches	unweathered bedrock	Not reported	Not reported	Max: 0.00 Min: 0.00	Max: 0.00 Min: 0.00

OTHER SOIL TYPES IN AREA

Based on Soil Conservation Service STATSGO data, the following additional subordinant soil types may appear within the general area of target property.

Soil Surface Textures: unweathered bedrock
very gravelly - clay loam

Surficial Soil Types: unweathered bedrock
very gravelly - clay loam

Shallow Soil Types: No Other Soil Types

Deeper Soil Types: No Other Soil Types

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

ADDITIONAL ENVIRONMENTAL RECORD SOURCES

According to ASTM E 1527-00, Section 7.2.2, "one or more additional state or local sources of environmental records may be checked, in the discretion of the environmental professional, to enhance and supplement federal and state sources... Factors to consider in determining which local or additional state records, if any, should be checked include (1) whether they are reasonably ascertainable, (2) whether they are sufficiently useful, accurate, and complete in light of the objective of the records review (see 7.1.1), and (3) whether they are obtained, pursuant to local, good commercial or customary practice." One of the record sources listed in Section 7.2.2 is water well information. Water well information can be used to assist the environmental professional in assessing sources that may impact groundwater flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

WELL SEARCH DISTANCE INFORMATION

DATABASE	SEARCH DISTANCE (miles)
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 1 mile
State Database	1.000

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
A1	334943111545901	1/8 - 1/4 Mile North
D25	334930111543001	1/4 - 1/2 Mile East
E36	334954111552401	1/2 - 1 Mile NW
H37	334914111543301	1/2 - 1 Mile SE
G43	334945111553301	1/2 - 1 Mile WNW
H44	334918111542801	1/2 - 1 Mile ESE
G45	334946111553301	1/2 - 1 Mile WNW
J49	335004111545901	1/2 - 1 Mile North
L66	334945111554701	1/2 - 1 Mile WNW
Q71	334947111555201	1/2 - 1 Mile WNW

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
5	AZ0407153	1/4 - 1/2 Mile South

Note: PWS System location is not always the same as well location.

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
A2	AZWR602820	1/8 - 1/4 Mile NNW
A3	AZWR803530	1/8 - 1/4 Mile NNW
A4	AZWR604779	1/8 - 1/4 Mile NNE
B6	AZWR514904	1/4 - 1/2 Mile NE
B7	AZWR800671	1/4 - 1/2 Mile NE

STATE DATABASE WELL INFORMATION

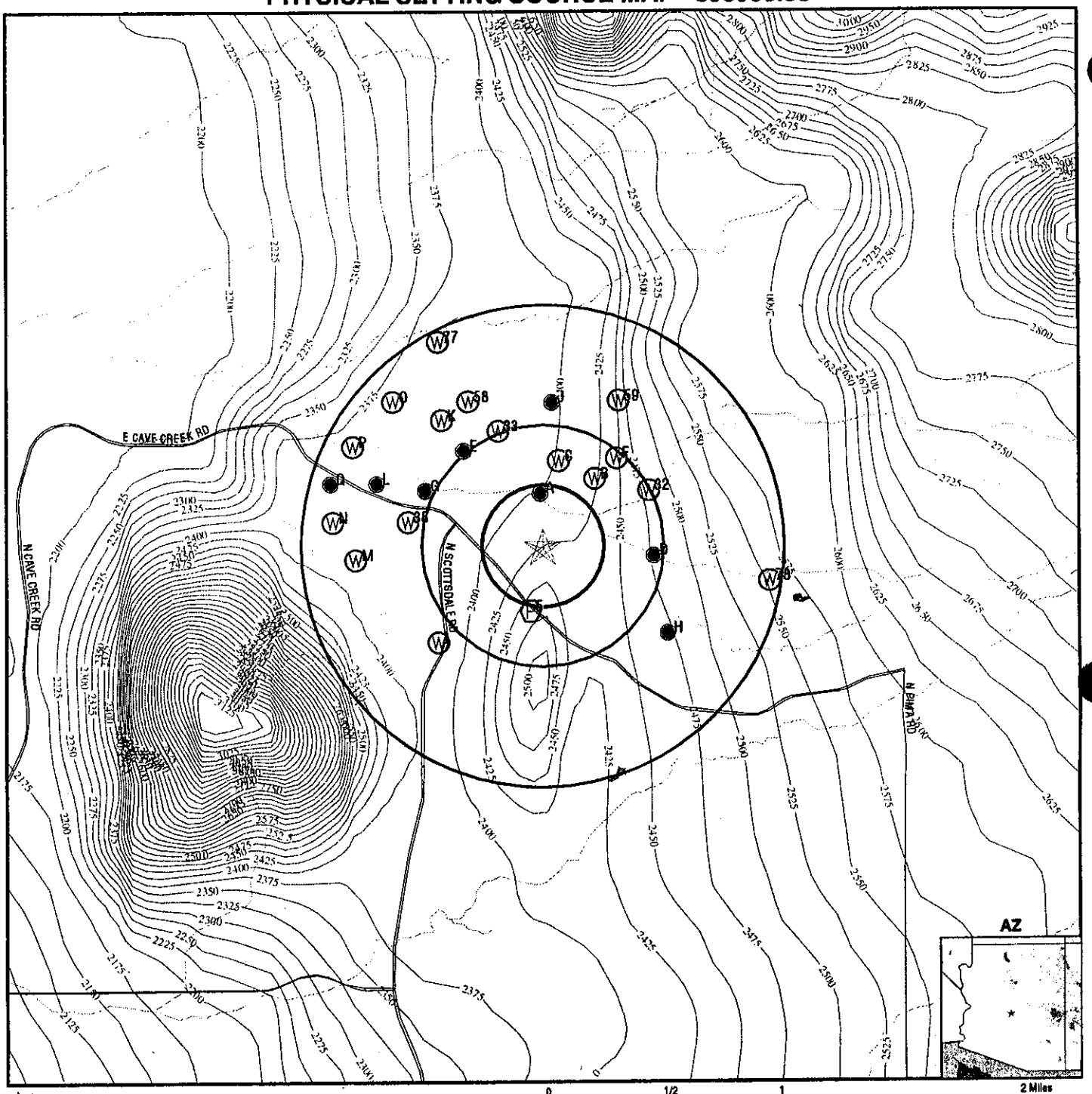
MAP ID	WELL ID	LOCATION FROM TP
C8	AZWR602835	1/4 - 1/2 Mile North
C9	AZWR632123	1/4 - 1/2 Mile North
B10	AZWR556858	1/4 - 1/2 Mile NE
B11	AZWR508721	1/4 - 1/2 Mile NNE
B12	AZWR628046	1/4 - 1/2 Mile NNE
D13	AZWR604780	1/4 - 1/2 Mile East
E14	AZWR527022	1/4 - 1/2 Mile NW
E15	AZWR537088	1/4 - 1/2 Mile NW
E16	AZWR085289	1/4 - 1/2 Mile NW
E17	AZWR517616	1/4 - 1/2 Mile NW
E18	AZWR800715	1/4 - 1/2 Mile NW
F19	AZWR512174	1/4 - 1/2 Mile NE
F20	AZWR572237	1/4 - 1/2 Mile NE
F21	AZWR803769	1/4 - 1/2 Mile NE
F22	AZWR803770	1/4 - 1/2 Mile NE
E23	AZWR640595	1/4 - 1/2 Mile NNW
E24	AZWR803838	1/4 - 1/2 Mile NNW
F26	AZWR602366	1/4 - 1/2 Mile NNE
F27	AZWR806754	1/4 - 1/2 Mile NNE
F28	AZWR648169	1/4 - 1/2 Mile NNE
G29	AZWR544071	1/4 - 1/2 Mile WNW
G30	AZWR807351	1/4 - 1/2 Mile WNW
G31	AZWR533284	1/4 - 1/2 Mile WNW
32	AZWR801084	1/4 - 1/2 Mile ENE
33	AZWR638233	1/2 - 1 Mile NNW
E34	AZWR085006	1/2 - 1 Mile NW
E35	AZWR513080	1/2 - 1 Mile NW
38	AZWR800833	1/2 - 1 Mile West
E39	AZWR640371	1/2 - 1 Mile NNW
E40	AZWR633667	1/2 - 1 Mile NNW
E41	AZWR525029	1/2 - 1 Mile NNW
E42	AZWR524910	1/2 - 1 Mile NNW
I46	AZWR534767	1/2 - 1 Mile SW
I47	AZWR540550	1/2 - 1 Mile SW
I48	AZWR557337	1/2 - 1 Mile SW
G50	AZWR639925	1/2 - 1 Mile WNW
J51	AZWR629982	1/2 - 1 Mile North
K52	AZWR639198	1/2 - 1 Mile NW
K53	AZWR540066	1/2 - 1 Mile NW
K54	AZWR523220	1/2 - 1 Mile NW
K55	AZWR536365	1/2 - 1 Mile NW
K56	AZWR804103	1/2 - 1 Mile NW
K57	AZWR636350	1/2 - 1 Mile NW
58	AZWR538118	1/2 - 1 Mile NNW
59	AZWR638748	1/2 - 1 Mile NNE
L60	AZWR803771	1/2 - 1 Mile WNW
H61	AZWR611876	1/2 - 1 Mile SE
H62	AZWR503642	1/2 - 1 Mile SE
K63	AZWR640368	1/2 - 1 Mile NW
K64	AZWR638263	1/2 - 1 Mile NW
M65	AZWR634975	1/2 - 1 Mile West
M67	AZWR633045	1/2 - 1 Mile West

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
N68	AZWR631418	1/2 - 1 Mile West
O69	AZWR502299	1/2 - 1 Mile NW
P70	AZWR638093	1/2 - 1 Mile WNW
P72	AZWR800889	1/2 - 1 Mile WNW
O73	AZWR648056	1/2 - 1 Mile NW
Q74	AZWR804020	1/2 - 1 Mile WNW
P75	AZWR518050	1/2 - 1 Mile WNW
N76	AZWR634407	1/2 - 1 Mile West
77	AZWR601779	1/2 - 1 Mile NNW
78	AZWR604781	1/2 - 1 Mile East
Q79	AZWR634964	1/2 - 1 Mile WNW

PHYSICAL SETTING SOURCE MAP - 896955.5s



0 1/2 1 2 Miles

County Boundary
Major Roads
Contour Lines
Water Wells
Public Water Supply Wells
Groundwater Flow Direction
Indeterminate Groundwater Flow at Location
Groundwater Flow Varies at Location
Cluster of Multiple Icons
Earthquake epicenter, Richter 5 or greater
Closest Hydrogeological Data

TARGET PROPERTY:	Carefree Drainage Master Plan	CUSTOMER:	CH2M Hill, Inc.
ADDRESS:	213	CONTACT:	Monique Chaisson
CITY/STATE/ZIP:	Carefree AZ 85377	INQUIRY #:	896955.5s
LAT/LONG:	33.8259 / 111.9173	DATE:	January 08, 2003 3:25 pm

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Map ID Direction Distance Elevation	Database	EDR ID Number
A1 **North** **1/8 - 1/4 Mile** ***Lower***	**FED USGS**	**334943111545901**

BASIC WELL DATA

Site Type:	Single well, other than collector or Ranney type		
Year Constructed:	1959	County:	Maricopa
Altitude:	2375.00 ft.	State:	Arizona
Well Depth:	485.00 ft.	Topographic Setting:	Not Reported
Depth to Water Table:	37.00 ft.	Prim. Use of Site:	Withdrawal of water
Date Measured:	02011959	Prim. Use of Water:	Public supply

A2 **NNW** **1/8 - 1/4 Mile** **Lower**	**AZ WELLS**	**AZWR602820**

Registryid:	602820	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SW
Acre40:	SE	Acre10:	SE
Utmx:	415087.6	Utmy:	3743397.4
Welltype:	NON-EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	10/17/1979 00:00:00
Driller:	0	Welldepth:	265
Waterlevel:	40	Casingtype:	PLASTIC OR PVC
Casingdeep:	265	Casingwide:	5
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	45	Testrate:	45
Drawdown:	0	Drilllog:	Not Reported
Lastname:	PARKE,R E	Firstname:	Not Reported
Company:	Not Reported		
Address:	831 E MISSOURI		
City:	PHOENIX	State:	AZ
Zipcode:	85014	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported AZ

A3 **NNW** **1/8 - 1/4 Mile** **Lower**	**AZ WELLS**	**AZWR803530**

Registryid:	803530	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SW
Acre40:	SE	Acre10:	SE
Utmx:	415087.6	Utmy:	3743397.4
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	01/01/1960 00:00:00
Driller:	0	Welldepth:	104
Waterlevel:	35	Casingtype:	OTHER - BLACK STEEL - IRON - SEAMLESS
Casingdeep:	80	Casingwide:	5
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	8	Testrate:	0
Drawdown:	0	Drilllog:	Not Reported
Lastname:	DUBAS, WALTER,J	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 914		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported
	AZ

A4
NNE
1/8 - 1/4 Mile
Lower

AZ WELLS **AZWR604779**

Registryid:	604779	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SE
Acre40:	SW	Acre10:	SW
Utmx:	415287.7	Utmy:	3743396.5
Welltype:	NON-EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	MUNICIPAL
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	01/01/1959 00:00:00
Driller:	0	Welldepth:	485
Waterlevel:	82	Casingtype:	STEEL - PERFORATED OR SLOTTED CASING
Casingdeep:	485	Casingwide:	16
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	140	Testrate:	140
Drawdown:	0	Drilllog:	Not Reported

Lastname:	CAREFREE WATER CO,	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 702		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported
Registryid:	604779	Pump1984:	159.1
Pump1985:	145.11	Pump1986:	153.06
Pump1987:	86.5	Pump1988:	53.76
Pump1989:	122.75	Pump1990:	134.77
Pump1991:	137.78	Pump1992:	121.36
Pump1993:	124.99	Pump1994:	117.27
Pump1995:	89.87	Pump1996:	83.75
Pump1997:	69.26	Pump1998:	79.56
Pump1999:	45.09	Pumptotal:	1792.16
Driller:	0		
Company:	NO DRILLER SPECIFIED		
Address:	Not Reported		
	AZ		

5
South
1/4 - 1/2 Mile
Higher

FRDS PWS **AZ0407153**

PWS ID:	AZ0407153	PWS Status:	Active
Date Initiated:	7706	Date Deactivated:	Not Reported
PWS Name:	SCOTTSDALE CAREFREE RANCH 9191 EAST SAN SALVADOR DRIVE SCOTTSDALE, AZ 85258		
Addressee / Facility:	System Owner/Responsible Party CITY OF SCOTTSDALE 9388 EAST SAN SALVADOR DR SCOTTSDALE, AZ 85258		
Facility Latitude:	Not Reported	Facility Longitude	Not Reported
City Served:	CAREFREE		
Treatment Class:	Untreated	Population:	00000960

PWS currently has or had major violation(s) or enforcement: Yes

VIOLATIONS INFORMATION:

Violation ID:	9358863	Source ID:	Not Reported	PWS Phone:	Not Reported
Vio. beginning Date:	03/01/93	Vio. end Date:	03/31/93	Vio. Period:	001 Months
Num required Samples:	Not Reported	Number of Samples Taken:		Not Reported	
Analysis Result:	Not Reported	Maximum Contaminant Level:		Not Reported	
Analysis Method:	Not Reported				
Violation Type:	Monitoring, Routine Minor (TCR)				
Contaminant:	COLIFORM (TCR)				
Vio. Awareness Date:	050294				

Map ID Direction Distance Elevation		Database	EDR ID Number
B6 **NE** **1/4 - 1/2 Mile** **Higher**		**AZ WELLS**	**AZWR514904**

Registryid:	514904	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SE
Acre40:	SW	Acre10:	SE
Utmx:	415487.8	Utmy:	3743395.6
Welltype:	DOMESTIC STOCK EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	07/25/1986 00:00:00
Driller:	127	Welldepth:	300
Waterlevel:	70	Casingtype:	PLASTIC OR PVC
Casingdeep:	300	Casingwide:	8
Pumptype:	SUBMERSIBLE	Pumppower:	ELECTRIC MOTOR 1 - 5 HP
Pumprate:	27	Testrate:	30
Drawdown:	0	Drilllog:	X
Lastname:	THREADGILL, SELMAN,	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 2303		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported

Driller:	127
Company:	SPUR CROSS DEVELOPMENT, INC.
Address:	38219 N. 3RD AVENUE DESERT HILLS, AZ 85027

B7 **NE** **1/4 - 1/2 Mile** **Higher**		**AZ WELLS**	**AZWR800671**

Registryid:	800671	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SE
Acre40:	SW	Acre10:	SE
Utmx:	415487.8	Utmy:	3743395.6
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	STOCK	Wateruse3:	Not Reported

Approved:	Not Reported	Installed:	Not Reported
Driller:	0	Welldepth:	0
Waterlevel:	0	Casingtype:	Not Reported
Casingdeep:	0	Casingwide:	0
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drilllog:	Not Reported
Lastname:	COMICK, MICHAEL,E	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 2793		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported
	AZ

C8
North
1/4 - 1/2 Mile
Lower

AZ WELLS **AZWR602835**

Registryid:	602835	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SE
Acre40:	SW	Acre10:	NW
Utmx:	415289.4	Utmy:	3743596.8
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	IRRIGATION
Wateruse2:	DOMESTIC	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	01/30/1975 00:00:00
Driller:	0	Welldepth:	250
Waterlevel:	100	Casingtype:	STEEL - PERFORATED OR SLOTTED CASING
Casingdeep:	250	Casingwide:	8
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	35	Testrate:	35
Drawdown:	0	Drilllog:	Not Reported
Lastname:	BANE,J	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 1488		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported
	AZ

Map ID Direction Distance Elevation	Database	EDR ID Number
C9 **North** **1/4 - 1/2 Mile** **Lower**	**AZ WELLS**	**AZWR632123**

Registryid:	632123	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SE
Acre40:	SW	Acre10:	NW
Utmx:	415289.4	Utmy:	3743596.8
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	08/15/1978 00:00:00
Driller:	0	Welldepth:	250
Waterlevel:	96	Casingtype:	STEEL - PERFORATED OR SLOTTED CASING
Casingdeep:	250	Casingwide:	6
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	20	Testrate:	20
Drawdown:	0	Drillog:	Not Reported
Lastname:	STEIGERWALD,J	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 1026		
City:	CAREFREE	State:	AZ
Zipcode:	85977	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported AZ

B10 **NE** **1/4 - 1/2 Mile** **Higher**	**AZ WELLS**	**AZWR556858**

Registryid:	556858	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SE
Acre40:	SE	Acre10:	SW
Utmx:	415687.8	Utmy:	3743394.7
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported

Approved:	Not Reported	Installed:	03/03/1997 00:00:00
Driller:	127	Welldepth:	300
Waterlevel:	180	Casingtype:	PLASTIC OR PVC
Casingdeep:	300	Casingwide:	8
Pumptype:	SUBMERSIBLE	Pumppower:	ELECTRIC MOTOR 1 - 5 HP
Pumprate:	12	Testrate:	0
Drawdown:	0	Drilllog:	X
Lastname:	PAYNE, THOMAS,W	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 9878		
City:	ASPEN	State:	CO
Zipcode:	81611	Cancelled:	Not Reported

Driller:	127
Company:	SPUR CROSS DEVELOPMENT, INC.
Address:	38219 N. 3RD AVENUE DESERT HILLS, AZ 85027

B11
NNE
1/4 - 1/2 Mile
Lower

AZ WELLS **AZWR508721**

Registryid:	508721	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SE
Acre40:	SW	Acre10:	NE
Utmx:	415489.4	Utmy:	3743595.9
Welltype:	DOMESTIC STOCK EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	02/21/1985 00:00:00
Driller:	127	Welldepth:	290
Waterlevel:	200	Casingtype:	PLASTIC OR PVC
Casingdeep:	280	Casingwide:	8
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drilllog:	X
Lastname:	BOHANNAN JR,B	Firstname:	Not Reported
Company:	Not Reported		
Address:	7000 E BERNEIL DR		
City:	SCOTTSDALE	State:	AZ
Zipcode:	85253	Cancelled:	Not Reported

Driller:	127
Company:	SPUR CROSS DEVELOPMENT, INC.
Address:	38219 N. 3RD AVENUE DESERT HILLS, AZ 85027

Map ID Direction Distance Elevation	Database	EDR ID Number
B12 **NNE** **1/4 - 1/2 Mile** **Lower**	**AZ WELLS**	**AZWR628046**

Registryid:	628046	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SE
Acre40:	SW	Acre10:	NE
Utmx:	415489.4	Utmy:	3743595.9
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	01/01/1973 00:00:00
Driller:	0	Welldepth:	0
Waterlevel:	0	Casingtype:	Not Reported
Casingdeep:	0	Casingwide:	0
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drilllog:	Not Reported
Lastname:	DESZENDEFFY,R	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 556		
City:	LINCOLN PARK	State:	NJ
Zipcode:	07035	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported AZ

D13 **East** **1/4 - 1/2 Mile** **Higher**	**AZ WELLS**	**AZWR604780**

Registryid:	604780	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	35	Acre160:	NE
Acre40:	NE	Acre10:	SE
Utmx:	415885.9	Utmy:	3742991.5
Welltype:	NON-EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	MUNICIPAL
Wateruse2:	Not Reported	Wateruse3:	Not Reported

Approved:	Not Reported	Installed:	01/01/1961 00:00:00
Driller:	0	Welldepth:	535
Waterlevel:	132	Casingtype:	STEEL - PERFORATED OR SLOTTED CASING
Casingdeep:	535	Casingwide:	16
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	140	Testrate:	140
Drawdown:	0	Drilllog:	Not Reported
Lastname:	CAREFREE WATER CO,	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 702		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported

Registryid:	604780	Pump1984:	122.1
Pump1985:	137.84	Pump1986:	22.76
Pump1987:	.5	Pump1988:	.09
Pump1989:	20.66	Pump1990:	39.9
Pump1991:	21.4	Pump1992:	14.33
Pump1993:	9.54	Pump1994:	24.34
Pump1995:	36.77	Pump1996:	31.92
Pump1997:	27.93	Pump1998:	18.25
Pump1999:	11.88	Pumptotal:	540.27

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported
	AZ

E14
NW
1/4 - 1/2 Mile
Lower

AZ WELLS AZWR527022

Registryid:	527022	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SW
Acre40:	SW	Acre10:	NE
Utmx:	414689.3	Utmy:	3743599.6
Welltype:	DOMESTIC STOCK EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	02/06/1990 00:00:00
Driller:	355	Welldepth:	200
Waterlevel:	58	Casingtype:	STEEL - PERFORATED OR SLOTTED CASING
Casingdeep:	200	Casingwide:	8
Pumptype:	CENTRIFUGAL	Pumppower:	ELECTRIC MOTOR < 1 HP
Pumprate:	10	Testrate:	10
Drawdown:	20	Drilllog:	X
Lastname:	O'BOYLE, EDWARD,	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 1723		
City:	CAVE CREEK	State:	AZ
Zipcode:	85331	Cancelled:	Not Reported

Driller:	355
Company:	BEEMAN BROTHERS DRILLING, INC.
Address:	44806 N. 14TH STREET NEW RIVER, AZ 85087

E15
NW
1/4 - 1/2 Mile
Lower

AZ WELLS **AZWR537088**

Registryid:	537088	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SW
Acre40:	SW	Acre10:	NE
Utmx:	414689.3	Utmy:	3743599.6
Welltype:	DOMESTIC STOCK EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	Not Reported
Driller:	355	Welldepth:	0
Waterlevel:	0	Casingtype:	Not Reported
Casingdeep:	0	Casingwide:	0
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drilllog:	Not Reported
Lastname:	CARNICELLI,L	Firstname:	Not Reported
Company:	Not Reported		
Address:	4139 W PT AU PRINCE		
City:	PHOENIX	State:	AZ
Zipcode:	85023	Cancelled:	Y

Driller:	355
Company:	BEEMAN BROTHERS DRILLING, INC.
Address:	44806 N. 14TH STREET NEW RIVER, AZ 85087

E16
NW
1/4 - 1/2 Mile
Lower

AZ WELLS **AZWR085289**

Registryid:	085289	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SW
Acre40:	SW	Acre10:	NE
Utmx:	414689.3	Utmy:	3743599.6
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported

Approved:	Not Reported	Installed:	01/01/1980 00:00:00
Driller:	127	Welldepth:	200
Waterlevel:	150	Casingtype:	PLASTIC OR PVC
Casingdeep:	203	Casingwide:	5
Pumptype:	SUBMERSIBLE	Pumppower:	ELECTRIC MOTOR < 1 HP
Pumprate:	0	Testrate:	0
Drawdown:	15	Drilllog:	Not Reported
Lastname:	DRAKE,D	Firstname:	Not Reported
Company:	Not Reported		
Address:	1029 MANITOU		
City:	BOISE	State:	ID
Zipcode:	83706	Cancelled:	Not Reported

Driller:	127
Company:	SPUR CROSS DEVELOPMENT, INC.
Address:	38219 N. 3RD AVENUE DESERT HILLS, AZ 85027

E17
NW
1/4 - 1/2 Mile
Lower

AZ WELLS **AZWR517616**

Registryid:	517616	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SW
Acre40:	SW	Acre10:	NE
Utmx:	414689.3	Utmy:	3743599.6
Welltype:	DOMESTIC STOCK EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	Not Reported
Driller:	127	Welldepth:	0
Waterlevel:	0	Casingtype:	Not Reported
Casingdeep:	0	Casingwide:	0
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drilllog:	Not Reported
Lastname:	ALDER, JAMES & JANE,	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 762		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Y

Driller:	127
Company:	SPUR CROSS DEVELOPMENT, INC.
Address:	38219 N. 3RD AVENUE DESERT HILLS, AZ 85027

Map ID Direction Distance Elevation		Database	EDR ID Number
E18 **NW** **1/4 - 1/2 Mile** **Lower**		**AZ WELLS**	**AZWR800715**

Registryid:	800715	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SW
Acre40:	SW	Acre10:	Not Reported
Utmx:	414588.2	Utmy:	3743499.9
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	10/20/1979 00:00:00
Driller:	0	Welldepth:	200
Waterlevel:	65	Casingtype:	PLASTIC OR PVC
Casingdeep:	200	Casingwide:	5
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	20	Testrate:	20
Drawdown:	0	Drillog:	Not Reported
Lastname:	HUNT,R O	Firstname:	Not Reported
Company:	Not Reported		
Address:	7343 E SCOPA TRAIL		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported AZ

F19 **NE** **1/4 - 1/2 Mile** **Higher**		**AZ WELLS**	**AZWR512174**

Registryid:	512174	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SE
Acre40:	SE	Acre10:	NW
Utmx:	415689.5	Utmy:	3743594.9
Welltype:	DOMESTIC STOCK EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported

Approved:	Not Reported	Installed:	08/27/1985 00:00:00
Driller:	126	Welldepth:	300
Waterlevel:	200	Casingtype:	PLASTIC OR PVC
Casingdeep:	300	Casingwide:	8
Pumptype:	SUBMERSIBLE	Pumppower:	ELECTRIC MOTOR 1 - 5 HP
Pumprate:	33	Testrate:	40
Drawdown:	0	Drilllog:	X
Lastname:	TEMPO WEST INC,	Firstname:	Not Reported
Company:	Not Reported		
Address:	7895 E ACOMA DR #110		
City:	SCOTTSDALE	State:	AZ
Zipcode:	85260	Cancelled:	Not Reported

Driller:	126
Company:	SOIL SAMPLING SERVICE, INC.
Address:	P.O. BOX 710 PUYALLUP, WA 98371

F20
NE
1/4 - 1/2 Mile
Higher

AZ WELLS **AZWR572237**

Registryid:	572237	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SE
Acre40:	SE	Acre10:	NW
Utmx:	415689.5	Utmy:	3743594.9
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	04/02/1999 00:00:00	Installed:	Not Reported
Driller:	141	Welldepth:	0
Waterlevel:	0	Casingtype:	Not Reported
Casingdeep:	0	Casingwide:	0
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drilllog:	Not Reported
Lastname:	JONES	Firstname:	ROBERT W
Company:	Not Reported		
Address:	14002 N 49TH AVE #1062		
City:	GLENDALE	State:	AZ
Zipcode:	85306	Cancelled:	Y

Driller:	141
Company:	UNIVERSAL DRILLING, INC.
Address:	P.O. BOX 1027 WICKENBURG, AZ 85358

Map ID Direction Distance Elevation		Database	EDR ID Number
F21 **NE** **1/4 - 1/2 Mile** **Higher**		**AZ WELLS**	**AZWR803769**

Registryid:	803769	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SE
Acre40:	SE	Acre10:	Not Reported
Utmx:	415788.6	Utmy:	3743494.4
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	Not Reported
Driller:	0	Welldepth:	0
Waterlevel:	0	Casingtype:	STEEL - PERFORATED OR SLOTTED CASING
Casingdeep:	0	Casingwide:	0
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drillog:	Not Reported
Lastname:	PETERS, BERNICE,A	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 1816		
City:	CAVE CREEK	State:	AZ
Zipcode:	85331	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported AZ

F22 **NE** **1/4 - 1/2 Mile** **Higher**		**AZ WELLS**	**AZWR803770**

Registryid:	803770	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SE
Acre40:	SE	Acre10:	Not Reported
Utmx:	415788.6	Utmy:	3743494.4
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported

Approved:	Not Reported	Installed:	Not Reported
Driller:	0	Welldepth:	0
Waterlevel:	0	Casingtype:	STEEL - PERFORATED OR SLOTTED CASING
Casingdeep:	0	Casingwide:	0
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drilllog:	Not Reported
Lastname:	PETERS, BERNICE,A	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 1816		
City:	CAVE CREEK	State:	AZ
Zipcode:	85331	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported AZ

E23
NNW
1/4 - 1/2 Mile
Lower

AZ WELLS AZWR640595

Registryid:	*640595*	*Program:*	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SW
Acre40:	Not Reported	Acre10:	Not Reported
Utmx:	414790.1	Utmy:	3743699.3
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	NONE
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	Not Reported
Driller:	0	Welldepth:	0
Waterlevel:	0	Casingtype:	Not Reported
Casingdeep:	0	Casingwide:	0
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drilllog:	Not Reported
Lastname:	DIEDRICH, THAYES & E,	Firstname:	Not Reported
Company:	Not Reported		
Address:	1109 WESTWOOD DR		
City:	PLANO	State:	TX
Zipcode:	75075	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	*Not Reported* AZ

Map ID Direction Distance Elevation	Database	EDR ID Number
E24 **NNW** ***1/4 - 1/2 Mile*** **Lower**	**AZ WELLS**	**AZWR803838**

Registryid:	803838	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SW
Acre40:	Not Reported	Acre10:	Not Reported
Utmx:	414790.1	Utmy:	3743699.3
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	10/01/1972 00:00:00
Driller:	0	Welldepth:	0
Waterlevel:	0	Casingtype:	Not Reported
Casingdeep:	0	Casingwide:	0
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drilllog:	Not Reported
Lastname:	WOOD, JEANN,M	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 825		
City:	CAVE CREEK	State:	AZ
Zipcode:	85331	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported AZ

D25 **East** ***1/4 - 1/2 Mile*** **Higher**	**FED USGS**	**334930111543001**

BASIC WELL DATA

Site Type:	Single well, other than collector or Ranney type		
Year Constructed:	Not Reported	County:	Maricopa
Altitude:	2440.00 ft.	State:	Arizona
Well Depth:	535.00 ft.	Topographic Setting:	Not Reported
Depth to Water Table:	104.00 ft.	Prim. Use of Site:	Withdrawal of water
Date Measured:	04011969	Prim. Use of Water:	Public supply

F26 **NNE** ***1/4 - 1/2 Mile*** **Higher**	**AZ WELLS**	**AZWR602366**

Registryid:	602366	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SE
Acre40:	Not Reported	Acre10:	Not Reported
Utmx:	415590.2	Utmy:	3743695.5
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	01/01/1972 00:00:00
Driller:	0	Welldepth:	650
Waterlevel:	0	Casingtype:	Not Reported
Casingdeep:	0	Casingwide:	0
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	30	Testrate:	30
Drawdown:	0	Drilllog:	Not Reported
Lastname:	GALLOWAY,H R	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 2383		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported AZ

F27
NNE
1/4 - 1/2 Mile
Higher

AZ WELLS **AZWR806754**

Registryid:	806754	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SE
Acre40:	Not Reported	Acre10:	Not Reported
Utmx:	415590.2	Utmy:	3743695.5
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	12/31/1979 00:00:00
Driller:	0	Welldepth:	0
Waterlevel:	0	Casingtype:	Not Reported
Casingdeep:	0	Casingwide:	0
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drilllog:	Not Reported

Lastname:	NICKOLSON, WILLIAM,J	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 5335		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported
	AZ

F28
NNE
1/4 - 1/2 Mile
Higher

AZ WELLS **AZWR648169**

Registryid:	648169	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SE
Acre40:	Not Reported	Acre10:	Not Reported
Utmx:	415590.2	Utmy:	3743695.5
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	01/01/1957 00:00:00
Driller:	0	Welldepth:	250
Waterlevel:	225	Casingtype:	OTHER - BLACK STEEL - IRON - SEAMLESS
Casingdeep:	0	Casingwide:	4
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	1	Testrate:	1
Drawdown:	0	Drilllog:	Not Reported
Lastname:	MC CLLWAIN,R	Firstname:	Not Reported
Company:	Not Reported		
Address:	BOX 2002		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported
	AZ

G29
WNW
1/4 - 1/2 Mile
Lower

AZ WELLS **AZWR544071**

Registryid:	544071	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SW
Acre40:	SW	Acre10:	SW
Utmx:	414487.3	Utmy:	3743400.3
Welltype:	DOMESTIC STOCK EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	06/27/1994 00:00:00
Driller:	35	Welldepth:	200
Waterlevel:	100	Casingtype:	STEEL - PERFORATED OR SLOTTED CASING
Casingdeep:	200	Casingwide:	7
Pumptype:	SUBMERSIBLE	Pumppower:	ELECTRIC MOTOR 1 - 5 HP
Pumprate:	86	Testrate:	86
Drawdown:	0	Drilllog:	X
Lastname:	GRAINGER, PHILLIP,	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 883		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported

Driller:	35
Company:	CAMPBELL'S DRILLING, INC.
Address:	P.O. BOX 3019 WICKENBURG, AZ 85358

G30
WNW
1/4 - 1/2 Mile
Lower

AZ WELLS **AZWR807351**

Registryid:	807351	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SW
Acre40:	SW	Acre10:	SW
Utmx:	414487.3	Utmy:	3743400.3
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	02/25/1980 00:00:00
Driller:	0	Welldepth:	200
Waterlevel:	125	Casingtype:	PLASTIC OR PVC
Casingdeep:	200	Casingwide:	5
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	15	Testrate:	0
Drawdown:	0	Drilllog:	Not Reported

Lastname:	BISCHOFF, JANE,C	Firstname:	Not Reported
Company:	Not Reported		
Address:	34505 N SCOTTSDALE		
City:	SCOTTSDALE	State:	AZ
Zipcode:	85262	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported AZ

G31
WNW
1/4 - 1/2 Mile
Lower

AZ WELLS **AZWR533284**

Registryid:	533284	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SW
Acre40:	SW	Acre10:	SW
Utmx:	414487.3	Utmy:	3743400.3
Welltype:	DOMESTIC STOCK EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	10/06/1991 00:00:00
Driller:	127	Welldepth:	200
Waterlevel:	100	Casingtype:	PLASTIC OR PVC
Casingdeep:	200	Casingwide:	8
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drillog:	X
Lastname:	HUNT, W.D,	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 625		
City:	CAVE CREEK	State:	AZ
Zipcode:	85331	Cancelled:	Not Reported

Driller:	127
Company:	SPUR CROSS DEVELOPMENT, INC.
Address:	38219 N. 3RD AVENUE DESERT HILLS, AZ 85027

32
ENE
1/4 - 1/2 Mile
Higher

AZ WELLS **AZWR801084**

Registryid:	801084	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SE
Acre40:	SE	Acre10:	SE
Utmx:	415887.8	Utmy:	3743393.8
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	01/30/1962 00:00:00
Driller:	0	Welldepth:	265
Waterlevel:	265	Casingtype:	OTHER - BLACK STEEL - IRON - SEAMLESS
Casingdeep:	225	Casingwide:	6
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	34	Testrate:	34
Drawdown:	0	Drilllog:	Not Reported
Lastname:	GENTLEMAN COLONEL,A W	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 1023		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported AZ

33
NNW
1/2 - 1 Mile
Lower

AZ WELLS **AZWR638233**

Registryid:	638233	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SW
Acre40:	NE	Acre10:	SW
Utmx:	414891.1	Utmy:	3743798.9
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	Not Reported
Driller:	0	Welldepth:	0
Waterlevel:	0	Casingtype:	Not Reported
Casingdeep:	0	Casingwide:	0
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drilllog:	Not Reported

Lastname:	WOOD,J M	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 233		
City:	CAVE CREEK	State:	AZ
Zipcode:	85331	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported AZ

E34
NW
1/2 - 1 Mile
Lower

AZ WELLS **AZWR085006**

Registryid:	085006	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SW
Acre40:	SW	Acre10:	NW
Utmx:	414489.1	Utmy:	3743600.6
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	Not Reported
Driller:	42	Welldepth:	0
Waterlevel:	0	Casingtype:	Not Reported
Casingdeep:	0	Casingwide:	0
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drillog:	Not Reported
Lastname:	DICKINSON,D	Firstname:	Not Reported
Company:	Not Reported		
Address:	BOX 1108		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Y

Driller:	42
Company:	COUNCILMAN ENTERPRISES INC.
Address:	Not Reported CAVE CREEK, AZ

E35
NW
1/2 - 1 Mile
Lower

AZ WELLS **AZWR513080**

Registryid:	513080	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SW
Acre40:	SW	Acre10:	NW
Utmx:	414489.1	Utmy:	3743600.6
Welltype:	DOMESTIC STOCK EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	12/30/1985 00:00:00
Driller:	127	Welldepth:	200
Waterlevel:	140	Casingtype:	PLASTIC OR PVC
Casingdeep:	200	Casingwide:	5
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drilllog:	X
Lastname:	CHOMICKE, FRANK,	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 1632		
City:	CAVE CREEK	State:	AZ
Zipcode:	85331	Cancelled:	Not Reported

Driller:	127
Company:	SPUR CROSS DEVELOPMENT, INC.
Address:	38219 N. 3RD AVENUE DESERT HILLS, AZ 85027

E36
NW
1/2 - 1 Mile
Lower

FED USGS **334954111552401**

BASIC WELL DATA

Site Type:	Single well, other than collector or Ranney type		
Year Constructed:	1975	County:	Maricopa
Altitude:	2340.00 ft.	State:	Arizona
Well Depth:	Not Reported	Topographic Setting:	Alluvial or marine terrace
Depth to Water Table:	Not Reported	Prim. Use of Site:	Withdrawal of water
Date Measured:	Not Reported	Prim. Use of Water:	Domestic

H37
SE
1/2 - 1 Mile
Higher

FED USGS **334914111543301**

BASIC WELL DATA

Site Type:	Single well, other than collector or Ranney type		
Year Constructed:	1972	County:	Maricopa
Altitude:	2470.00 ft.	State:	Arizona
Well Depth:	380.00 ft.	Topographic Setting:	Undulating
Depth to Water Table:	Not Reported	Prim. Use of Site:	Withdrawal of water
Date Measured:	Not Reported	Prim. Use of Water:	Public supply

Map ID Direction Distance Elevation	Database	EDR ID Number
38 **West** ***1/2 - 1 Mile*** **Lower**	**AZ WELLS**	**AZWR800833**

Registryid:	800833	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	34	Acre160:	NE
Acre40:	NE	Acre10:	NE
Utmx:	414285.1	Utmy:	3743200.9
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	IRRIGATION	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	01/01/1950 00:00:00
Driller:	0	Welldepth:	225
Waterlevel:	190	Casingtype:	Not Reported
Casingdeep:	200	Casingwide:	4
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	35	Testrate:	35
Drawdown:	0	Drillog:	Not Reported
Lastname:	JEFFRESS,E B	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 982		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported AZ

E39 **NNW** ***1/2 - 1 Mile*** **Lower**	**AZ WELLS**	**AZWR640371**

Registryid:	640371	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SW
Acre40:	NW	Acre10:	SE
Utmx:	414691.1	Utmy:	3743799.9
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported

Approved:	Not Reported	Installed:	01/01/1968 00:00:00
Driller:	0	Welldepth:	95
Waterlevel:	41	Casingtype:	STEEL - PERFORATED OR SLOTTED CASING
Casingdeep:	0	Casingwide:	6
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	29	Testrate:	29
Drawdown:	0	Drilllog:	Not Reported
Lastname:	THOMPSON, ROBERT,W	Firstname:	Not Reported
Company:	Not Reported		
Address:	BOX 2333		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported AZ

E40
NNW
1/2 - 1 Mile
Lower

AZ WELLS **AZWR633667**

Registryid:	633667	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SW
Acre40:	NW	Acre10:	SE
Utmx:	414691.1	Utmy:	3743799.9
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	IRRIGATION	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	Not Reported
Driller:	0	Welldepth:	0
Waterlevel:	0	Casingtype:	Not Reported
Casingdeep:	0	Casingwide:	0
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	34	Testrate:	34
Drawdown:	0	Drilllog:	Not Reported
Lastname:	AUSMAN JR,E L	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 2575		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported AZ

Map ID Direction Distance Elevation	Database	EDR ID Number
E41 ***NNW*** **1/2 - 1 Mile** **Lower**	**AZ WELLS**	**AZWR525029**

Registryid:	525029	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	*Subbasin:*	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SW
Acre40:	NW	Acre10:	SE
Utmx:	414691.1	Utmy:	3743799.9
Welltype:	DOMESTIC STOCK EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	06/25/1989 00:00:00
Driller:	127	Welldepth:	300
Waterlevel:	150	Casingtype:	PLASTIC OR PVC
Casingdeep:	300	Casingwide:	8
Pumptype:	SUBMERSIBLE	Pumppower:	ELECTRIC MOTOR 1 - 5 HP
Pumprate:	10	Testrate:	35
Drawdown:	0	Drillog:	X
Lastname:	MOSER, ALVIN,	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 5430		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported

Driller:	127
Company:	SPUR CROSS DEVELOPMENT, INC.
Address:	38219 N. 3RD AVENUE DESERT HILLS, AZ 85027

E42 ***NNW*** **1/2 - 1 Mile** **Lower**	**AZ WELLS**	**AZWR524910**

Registryid:	524910	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SW
Acre40:	NW	Acre10:	SE
Utmx:	414691.1	Utmy:	3743799.9
Welltype:	DOMESTIC STOCK EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported

Approved:	Not Reported	Installed:	06/04/1989 00:00:00
Driller:	127	Welldepth:	300
Waterlevel:	200	Casingtype:	PLASTIC OR PVC
Casingdeep:	300	Casingwide:	8
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drilllog:	X
Lastname:	MARK, ADOLF DE-ROY,	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 1052		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported

Driller:	127
Company:	*SPUR CROSS DEVELOPMENT, INC.*
Address:	38219 N. 3RD AVENUE DESERT HILLS, AZ 85027

G43
WNW
1/2 - 1 Mile
Lower

FED USGS **334945111553301**

BASIC WELL DATA

Site Type:	Single well, other than collector or Ranney type		
Year Constructed:	Not Reported	County:	Maricopa
Altitude:	2310.00 ft.	State:	Arizona
Well Depth:	128.00 ft.	Topographic Setting:	Alluvial or marine terrace
Depth to Water Table:	30.06 ft.	*Prim. Use of Site:*	*Withdrawal of water*
Date Measured:	05081962	Prim. Use of Water:	Domestic

H44
ESE
1/2 - 1 Mile
Higher

FED USGS **334918111542801**

BASIC WELL DATA

Site Type:	Single well, other than collector or Ranney type		
Year Constructed:	1972	County:	Maricopa
Altitude:	2455.00 ft.	State:	Arizona
Well Depth:	385.00 ft.	*Topographic Setting:*	*Not Reported*
Depth to Water Table:	105.00 ft.	Prim. Use of Site:	Not Reported
Date Measured:	04011972	Prim. Use of Water:	Not Reported

G45
WNW
1/2 - 1 Mile
Lower

FED USGS **334946111553301**

BASIC WELL DATA

Site Type:	Single well, other than collector or Ranney type		
Year Constructed:	1918	County:	Maricopa
Altitude:	2310.00 ft.	State:	Arizona
Well Depth:	125.00 ft.	Topographic Setting:	Alluvial or marine terrace
Depth to Water Table:	Not Reported	Prim. Use of Site:	Unused
Date Measured:	Not Reported	Prim. Use of Water:	Not Reported

Map ID Direction Distance Elevation	Database	EDR ID Number
I46 **SW** **1/2 - 1 Mile** **Lower**	**AZ WELLS**	**AZWR534767**

Registryid:	534767	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	35	Acre160:	SW
Acre40:	NW	Acre10:	NW
Utmx:	414479.2	Utmy:	3742396.6
Welltype:	DOMESTIC STOCK EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	Not Reported
Driller:	127	Welldepth:	0
Waterlevel:	0	Casingtype:	Not Reported
Casingdeep:	0	Casingwide:	0
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drillog:	Not Reported
Lastname:	PROCTOR, DAROLD,	Firstname:	Not Reported
Company:	Not Reported		
Address:	8222 E TURNEY		
City:	SCOTTSDALE	State:	AZ
Zipcode:	85251	Cancelled:	Y

Driller:	127
Company:	SPUR CROSS DEVELOPMENT, INC.
Address:	38219 N. 3RD AVENUE DESERT HILLS, AZ 85027

I47 **SW** **1/2 - 1 Mile** **Lower**	**AZ WELLS**	**AZWR540550**

Registryid:	540550	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	35	Acre160:	SW
Acre40:	NW	Acre10:	NW
Utmx:	414479.2	Utmy:	3742396.6
Welltype:	DOMESTIC STOCK EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported

Approved:	Not Reported	Installed:	Not Reported
Driller:	127	Welldepth:	0
Waterlevel:	0	Casingtype:	Not Reported
Casingdeep:	0	Casingwide:	0
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drillog:	Not Reported
Lastname:	PROCTOR, DAROLD,	Firstname:	Not Reported
Company:	Not Reported		
Address:	12930 E MERCER LANE		
City:	SCOTTSDALE	State:	AZ
Zipcode:	85259	Cancelled:	Y

Driller:	127
Company:	SPUR CROSS DEVELOPMENT, INC.
Address:	38219 N. 3RD AVENUE DESERT HILLS, AZ 85027

I48
SW
1/2 - 1 Mile
Lower

AZ WELLS **AZWR557337**

Registryid:	557337	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	35	Acre160:	SW
Acre40:	NW	Acre10:	NW
Utmx:	414479.2	Utmy:	3742396.6
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	12/09/1996 00:00:00
Driller:	127	Welldepth:	300
Waterlevel:	30	Casingtype:	PLASTIC OR PVC
Casingdeep:	300	Casingwide:	6
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drillog:	X
Lastname:	PROCTOR, DAROLD,E	Firstname:	Not Reported
Company:	Not Reported		
Address:	12930 E MERCER LN		
City:	SCOTTSDALE	State:	AZ
Zipcode:	85259	Cancelled:	Not Reported

Driller:	127
Company:	SPUR CROSS DEVELOPMENT, INC.
Address:	38219 N. 3RD AVENUE DESERT HILLS, AZ 85027

GEOCHECK®- PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID Direction Distance Elevation	Database	EDR ID Number
J49 **North** **1/2 - 1 Mile** **Lower**	**FED USGS**	**335004111545901**

BASIC WELL DATA

Site Type:	Single well, other than collector or Ranney type		
Year Constructed:	1975	County:	Maricopa
Altitude:	2400.00 ft.	State:	Arizona
Well Depth:	305.00 ft.	Topographic Setting:	Hilltop
Depth to Water Table:	Not Reported	Prim. Use of Site:	Unused
Date Measured:	Not Reported	Prim. Use of Water:	Not Reported

G50 **WNW** **1/2 - 1 Mile** **Lower**	**AZ WELLS**	**AZWR639925**

Registryid:	639925	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	27	Acre160:	SE
Acre40:	SE	Acre10:	SE
Utmx:	414286.7	Utmy:	3743401.4
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	Not Reported
Driller:	0	Welldepth:	0
Waterlevel:	0	Casingtype:	Not Reported
Casingdeep:	0	Casingwide:	0
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	34	Testrate:	34
Drawdown:	0	Drilllog:	Not Reported
Lastname:	REESE ET AL,B A	Firstname:	Not Reported
Company:	Not Reported		
Address:	511 E CHEERY LYNN RD		
City:	PHOENIX	State:	AZ
Zipcode:	85012	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported AZ

J51 **North** **1/2 - 1 Mile** **Lower**	**AZ WELLS**	**AZWR629982**

Registryid:	629982	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SE
Acre40:	NW	Acre10:	NW
Utmx:	415292.8	Utmy:	3743997.3
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	01/01/1974 00:00:00
Driller:	0	Welldepth:	300
Waterlevel:	0	Casingtype:	STEEL - PERFORATED OR SLOTTED CASING
Casingdeep:	300	Casingwide:	6
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drilllog:	Not Reported
Lastname:	MALFETTI, JAMES,L	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 5327		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported
	AZ

K52
NW
1/2 - 1 Mile
Lower

AZ WELLS **AZWR639198**

Registryid:	639198	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SW
Acre40:	NW	Acre10:	SW
Utmx:	414490.9	Utmy:	3743800.8
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	Not Reported
Driller:	0	Welldepth:	0
Waterlevel:	0	Casingtype:	Not Reported
Casingdeep:	0	Casingwide:	0
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drilllog:	Not Reported

Lastname:	YEE, BRIAN,	Firstname:	Not Reported
Company:	Not Reported		
Address:	7233 HORIZON DR EAST		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Y

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported AZ

K53
NW
1/2 - 1 Mile
Lower

AZ WELLS **AZWR540066**

Registryid:	540066	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SW
Acre40:	NW	Acre10:	SW
Utmx:	414490.9	Utmy:	3743800.8
Welltype:	DOMESTIC STOCK EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	08/04/1993 00:00:00
Driller:	35	Welldepth:	300
Waterlevel:	75	Casingtype:	STEEL - PERFORATED OR SLOTTED CASING
Casingdeep:	300	Casingwide:	7
Pumptype:	CENTRIFUGAL	Pumppower:	ELECTRIC MOTOR < 1 HP
Pumprate:	23	Testrate:	60
Drawdown:	0	Drilllog:	X
Lastname:	BLOEHS, JAY,E	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 3133		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported

Driller:	35
Company:	CAMPBELL'S DRILLING, INC.
Address:	P.O. BOX 3019 WICKENBURG, AZ 85358

K54
NW
1/2 - 1 Mile
Lower

AZ WELLS **AZWR523220**

Registryid:	523220	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SW
Acre40:	NW	Acre10:	SW
Utmx:	414490.9	Utmy:	3743800.8
Welltype:	DOMESTIC STOCK EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	06/14/1989 00:00:00
Driller:	355	Welldepth:	195
Waterlevel:	40	Casingtype:	STEEL - PERFORATED OR SLOTTED CASING
Casingdeep:	195	Casingwide:	8
Pumptype:	SUBMERSIBLE	Pumppower:	ELECTRIC MOTOR 1 - 5 HP
Pumprate:	35	Testrate:	35
Drawdown:	0	Drilllog:	X
Lastname:	MONACELLI, MARIO,	Firstname:	Not Reported
Company:	Not Reported		
Address:	601 W TONOPAH DR #4		
City:	PHOENIX	State:	AZ
Zipcode:	85027	Cancelled:	Not Reported

Driller:	355
Company:	BEEMAN BROTHERS DRILLING, INC.
Address:	44806 N. 14TH STREET NEW RIVER, AZ 85087

K55
NW
1/2 - 1 Mile
Lower

AZ WELLS **AZWR536365**

Registryid:	536365	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SW
Acre40:	NW	Acre10:	SW
Utmx:	414490.9	Utmy:	3743800.8
Welltype:	DOMESTIC STOCK EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	09/15/1992 00:00:00
Driller:	127	Welldepth:	360
Waterlevel:	260	Casingtype:	PLASTIC OR PVC
Casingdeep:	360	Casingwide:	6
Pumptype:	SUBMERSIBLE	Pumppower:	ELECTRIC MOTOR < 1 HP
Pumprate:	12	Testrate:	0
Drawdown:	0	Drilllog:	X

Lastname:	YEE, BRIAN,	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 2636		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported

Driller:	127
Company:	SPUR CROSS DEVELOPMENT, INC.
Address:	38219 N. 3RD AVENUE DESERT HILLS, AZ 85027

K56
NW
1/2 - 1 Mile
Lower

AZ WELLS **AZWR804103**

Registryid:	804103	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SW
Acre40:	NW	Acre10:	Not Reported
Utmx:	414591.8	Utmy:	3743900.5
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	01/01/1968 00:00:00
Driller:	0	Welldepth:	0
Waterlevel:	50	Casingtype:	STEEL - PERFORATED OR SLOTTED CASING
Casingdeep:	600	Casingwide:	0
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drilllog:	Not Reported
Lastname:	MOSER, ALVIN & DONNA,	Firstname:	Not Reported
Company:	Not Reported		
Address:	7343 HORIZON DR EAST		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported AZ

K57
NW
1/2 - 1 Mile
Lower

AZ WELLS **AZWR636350**

Registryid:	636350	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SW
Acre40:	NW	Acre10:	Not Reported
Utmx:	414591.8	Utmy:	3743900.5
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	Not Reported
Driller:	0	Welldepth:	0
Waterlevel:	0	Casingtype:	Not Reported
Casingdeep:	0	Casingwide:	0
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	15	Testrate:	15
Drawdown:	0	Drilllog:	Not Reported
Lastname:	PARISH,N F	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 2046		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported
	AZ

58
NNW
1/2 - 1 Mile
Lower

AZ WELLS **AZWR538118**

Registryid:	538118	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SW
Acre40:	NW	Acre10:	NE
Utmx:	414692.8	Utmy:	3744000.1
Welltype:	DOMESTIC STOCK EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	02/17/1993 00:00:00
Driller:	127	Welldepth:	400
Waterlevel:	280	Casingtype:	PLASTIC OR PVC
Casingdeep:	0	Casingwide:	84
Pumptype:	SUBMERSIBLE	Pumppower:	ELECTRIC MOTOR 1 - 5 HP
Pumprate:	12	Testrate:	0
Drawdown:	0	Drilllog:	X

Lastname:	KICKBUSH, ROLAND,	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 2951		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported

Driller:	127
Company:	SPUR CROSS DEVELOPMENT, INC.
Address:	38219 N. 3RD AVENUE DESERT HILLS, AZ 85027

59
NNE
1/2 - 1 Mile
Higher

AZ WELLS **AZWR638748**

Registryid:	638748	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SE
Acre40:	NE	Acre10:	NW
Utmx:	415692.8	Utmy:	3743995.5
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	IRRIGATION	Wateruse3:	STOCK
Approved:	Not Reported	Installed:	01/01/1972 00:00:00
Driller:	0	Welldepth:	0
Waterlevel:	0	Casingtype:	STEEL - PERFORATED OR SLOTTED CASING
Casingdeep:	0	Casingwide:	6
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drillog:	Not Reported
Lastname:	CLEM II,S E	Firstname:	Not Reported
Company:	Not Reported		
Address:	7838 HORIZON DR		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported AZ

L60
WNW
1/2 - 1 Mile
Lower

AZ WELLS **AZWR803771**

Registryid:	803771	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	27	Acre160:	SE
Acre40:	SE	Acre10:	Not Reported
Utmx:	414187.4	Utmy:	3743502.3
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	Not Reported
Driller:	0	Welldepth:	0
Waterlevel:	0	Casingtype:	STEEL - PERFORATED OR SLOTTED CASING
Casingdeep:	0	Casingwide:	0
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drilllog:	Not Reported
Lastname:	PETERS, BERNICE,A	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 1816		
City:	CAVE CREEK	State:	AZ
Zipcode:	85331	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported
	AZ

H61
SE
1/2 - 1 Mile
Higher

AZ WELLS **AZWR611876**

Registryid:	611876	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	36	Acre160:	SW
Acre40:	NW	Acre10:	NW
Utmx:	416084	Utmy:	3742386.1
Welltype:	NON-EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	IRRIGATION
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	03/03/1972 00:00:00
Driller:	0	Welldepth:	380
Waterlevel:	105	Casingtype:	STEEL - PERFORATED OR SLOTTED CASING
Casingdeep:	380	Casingwide:	16
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	225	Testrate:	0
Drawdown:	0	Drilllog:	Not Reported

Lastname:	CAREFREE WTR CO INC,	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 7724		
City:	PHOENIX	State:	AZ
Zipcode:	85011	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported AZ

H62
SE
1/2 - 1 Mile
Higher

AZ WELLS AZWR503642

Registryid:	503642	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	36	Acre160:	SW
Acre40:	NW	Acre10:	NW
Utmx:	416084	Utmy:	3742386.1
Welltype:	NON-EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	IRRIGATION
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	08/01/1982 00:00:00
Driller:	127	Welldepth:	900
Waterlevel:	141	Casingtype:	STEEL - PERFORATED OR SLOTTED CASING
Casingdeep:	360	Casingwide:	16
Pumptype:	SUBMERSIBLE	Pumppower:	ELECTRIC MOTOR 16 - 100 HP
Pumprate:	99	Testrate:	99
Drawdown:	160	Drillog:	X
Lastname:	CAREFREE WTR CO INC,	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 7724		
City:	PHOENIX	State:	AZ
Zipcode:	85011	Cancelled:	Not Reported

Registryid:	503642	Pump1984:	26.6
Pump1985:	0	Pump1986:	0
Pump1987:	0	Pump1988:	0
Pump1989:	0	Pump1990:	0
Pump1991:	0	Pump1992:	0
Pump1993:	0	Pump1994:	0
Pump1995:	0	Pump1996:	0
Pump1997:	19.75	Pump1998:	0
Pump1999:	0	Pumptotal:	46.35

Driller:	127
Company:	SPUR CROSS DEVELOPMENT, INC.
Address:	38219 N. 3RD AVENUE DESERT HILLS, AZ 85027

Map ID Direction Distance Elevation	Database	EDR ID Number
K63 **NW** **1/2 - 1 Mile** **Lower**	**AZ WELLS**	**AZWR640368**

Registryid:	640368	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SW
Acre40:	NW	Acre10:	NW
Utmx:	414492.8	Utmy:	3744001.1
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	04/14/1972 00:00:00
Driller:	0	Welldepth:	132
Waterlevel:	20	Casingtype:	OTHER - BLACK STEEL - IRON - SEAMLESS
Casingdeep:	0	Casingwide:	7
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	30	Testrate:	0
Drawdown:	0	Drillog:	Not Reported
Lastname:	STEVENS, RODGER,W	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 266		
City:	CAVE CREEK	State:	AZ
Zipcode:	85331	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported AZ

K64 **NW** **1/2 - 1 Mile** **Lower**	**AZ WELLS**	**AZWR638263**

Registryid:	638263	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SW
Acre40:	NW	Acre10:	NW
Utmx:	414492.8	Utmy:	3744001.1
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported

Approved:	Not Reported	Installed:	01/01/1976 00:00:00
Driller:	0	Welldepth:	140
Waterlevel:	0	Casingtype:	Not Reported
Casingdeep:	0	Casingwide:	0
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	35	Testrate:	35
Drawdown:	0	Drilllog:	Not Reported
Lastname:	SUTER, RICHARD,M	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 5734		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported
	AZ

M65
West
1/2 - 1 Mile
Lower

AZ WELLS **AZWR634975**

Registryid:	634975	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	34	Acre160:	NE
Acre40:	Not Reported	Acre10:	Not Reported
Utmx:	413981.8	Utmy:	3742901.7
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	01/01/1961 00:00:00
Driller:	0	Welldepth:	96
Waterlevel:	60	Casingtype:	OTHER - BLACK STEEL - IRON - SEAMLESS
Casingdeep:	90	Casingwide:	6
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	5	Testrate:	5
Drawdown:	0	Drilllog:	Not Reported
Lastname:	VIGDAL	Firstname:	JERALD & ROBIN
Company:	Not Reported		
Address:	PO BOX 7278		
City:	CAVE CREEK	State:	AZ
Zipcode:	85327	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported
	AZ

Map ID Direction Distance Elevation	Database	EDR ID Number
L66 **WNW** **1/2 - 1 Mile** **Lower**	**FED USGS**	**334945111554701**

BASIC WELL DATA

Site Type:	Single well, other than collector or Ranney type		
Year Constructed:	Not Reported	County:	Maricopa
Altitude:	2320.00 ft.	State:	Arizona
Well Depth:	Not Reported	Topographic Setting:	Hillside (slope)
Depth to Water Table:	Not Reported	Prim. Use of Site:	Unused
Date Measured:	Not Reported	Prim. Use of Water:	Not Reported

M67 **West** **1/2 - 1 Mile** **Lower**	**AZ WELLS**	**AZWR633045**

Registryid:	633045	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	34	Acre160:	NE
Acre40:	NW	Acre10:	SE
Utmx:	413882.5	Utmy:	3743002.7
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	01/01/1952 00:00:00
Driller:	0	Welldepth:	0
Waterlevel:	0	Casingtype:	Not Reported
Casingdeep:	0	Casingwide:	0
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drilllog:	Not Reported
Lastname:	PERRY,B P	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 3		
City:	CAVE CREEK	State:	AZ
Zipcode:	85331	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported AZ

N68 **West** **1/2 - 1 Mile** **Lower**	**AZ WELLS**	**AZWR631418**

Registryid:	631418	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	34	Acre160:	NE
Acre40:	NW	Acre10:	NE
Utmx:	413884.3	Utmy:	3743203.5
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	IRRIGATION
Wateruse2:	DOMESTIC	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	Not Reported
Driller:	0	Welldepth:	210
Waterlevel:	100	Casingtype:	STEEL - PERFORATED OR SLOTTED CASING
Casingdeep:	100	Casingwide:	8
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	35	Testrate:	35
Drawdown:	0	Drilllog:	Not Reported
Lastname:	WIEGERS, ROLLAND,L	Firstname:	Not Reported
Company:	Not Reported		
Address:	7345 JACKRABBITT RD		
City:	SCOTTSDALE	State:	AZ
Zipcode:	85253	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported
	AZ

O69
NW
1/2 - 1 Mile
Lower

AZ WELLS **AZWR502299**

Registryid:	502299	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	27	Acre160:	SE
Acre40:	NE	Acre10:	NE
Utmx:	414292.3	Utmy:	3744002.4
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	03/30/1982 00:00:00
Driller:	127	Welldepth:	260
Waterlevel:	0	Casingtype:	PLASTIC OR PVC
Casingdeep:	260	Casingwide:	8
Pumptype:	SUBMERSIBLE	Pumppower:	ELECTRIC MOTOR < 1 HP
Pumprate:	0	Testrate:	0
Drawdown:	0	Drilllog:	X

Lastname:	ASAKAWA,D	Firstname:	Not Reported
Company:	Not Reported		
Address:	1517 E DESERT PK LN		
City:	PHOENIX	State:	AZ
Zipcode:	85020	Cancelled:	Not Reported

Driller:	127
Company:	SPUR CROSS DEVELOPMENT, INC.
Address:	38219 N. 3RD AVENUE DESERT HILLS, AZ 85027

P70
WNW
1/2 - 1 Mile
Lower

AZ WELLS **AZWR638093**

Registryid:	638093	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	27	Acre160:	SE
Acre40:	Not Reported	Acre10:	Not Reported
Utmx:	413988.8	Utmy:	3743703.9
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	01/01/1974 00:00:00
Driller:	0	Welldepth:	160
Waterlevel:	0	Casingtype:	Not Reported
Casingdeep:	0	Casingwide:	0
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	35	Testrate:	35
Drawdown:	0	Drillog:	Not Reported
Lastname:	WHITE,V W	Firstname:	Not Reported
Company:	Not Reported		
Address:	STAR RT 1 BOX 585		
City:	CAVE CREEK	State:	AZ
Zipcode:	85331	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported AZ

Q71
WNW
1/2 - 1 Mile
Lower

FED USGS **334947111555201**

BASIC WELL DATA

Site Type:	Single well, other than collector or Ranney type		
Year Constructed:	1957	County:	Maricopa
Altitude:	2295.00 ft.	State:	Arizona
Well Depth:	63.00 ft.	Topographic Setting:	Hillside (slope)
Depth to Water Table:	29.30 ft.	Prim. Use of Site:	Unused
Date Measured:	05081962	Prim. Use of Water:	Not Reported

Map ID Direction Distance Elevation	Database	EDR ID Number
P72 **WNW** **1/2 - 1 Mile** **Lower**	**AZ WELLS**	**AZWR800889**

Registryid:	800889	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	27	Acre160:	SE
Acre40:	SW	Acre10:	NE
Utmx:	413887.5	Utmy:	3743604.5
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	IRRIGATION	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	01/01/1968 00:00:00
Driller:	0	Welldepth:	200
Waterlevel:	60	Casingtype:	STEEL - PERFORATED OR SLOTTED CASING
Casingdeep:	180	Casingwide:	6
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	60	Testrate:	60
Drawdown:	0	Drilllog:	Not Reported
Lastname:	HIPES,J H	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 682		
City:	CAVE CREEK	State:	AZ
Zipcode:	85331	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported AZ

O73 **NW** **1/2 - 1 Mile** **Lower**	**AZ WELLS**	**AZWR648056**

Registryid:	648056	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	27	Acre160:	SE
Acre40:	NE	Acre10:	NW
Utmx:	414091.6	Utmy:	3744003.7
Welltype:	EXEMPT	Welluse1:	ABANDONED
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported

Approved:	Not Reported	Installed:	06/25/1977 00:00:00
Driller:	127	Welldepth:	150
Waterlevel:	50	Casingtype:	STEEL - PERFORATED OR SLOTTED CASING
Casingdeep:	150	Casingwide:	12
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drilllog:	Not Reported
Lastname:	WHITTAKER	Firstname:	MICHAEL F
Company:	Not Reported		
Address:	28029 N 111TH WAY		
City:	SCOTTSDALE	State:	AZ
Zipcode:	85255	Cancelled:	Y

Driller:	127
Company:	SPUR CROSS DEVELOPMENT, INC.
Address:	38219 N. 3RD AVENUE DESERT HILLS, AZ 85027

Q74
WNW
1/2 - 1 Mile
Lower

AZ WELLS **AZWR804020**

Registryid:	804020	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	27	Acre160:	SE
Acre40:	SW	Acre10:	Not Reported
Utmx:	413786.4	Utmy:	3743505
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	IRRIGATION
Wateruse2:	DOMESTIC	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	Not Reported
Driller:	0	Welldepth:	0
Waterlevel:	0	Casingtype:	Not Reported
Casingdeep:	0	Casingwide:	0
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drilllog:	Not Reported
Lastname:	KOPCHA, MICHAEL,P	Firstname:	Not Reported
Company:	Not Reported		
Address:	1821 BENEDICT CYN		
City:	BEVERLY HILLS	State:	CA
Zipcode:	90210	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported AZ

Map ID Direction Distance Elevation	Database	EDR ID Number
P75 **WNW** **1/2 - 1 Mile** **Lower**	**AZ WELLS**	**AZWR518050**

Registryid:	518050	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	27	Acre160:	SE
Acre40:	NW	Acre10:	SE
Utmx:	413889.3	Utmy:	3743804.8
Welltype:	SERVICE	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	UTILITY (WATER CO)
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	01/31/1988 00:00:00
Driller:	7	Welldepth:	715
Waterlevel:	24	Casingtype:	STEEL - PERFORATED OR SLOTTED CASING
Casingdeep:	715	Casingwide:	10
Pumptype:	SUBMERSIBLE	Pumppower:	ELECTRIC MOTOR 16 - 100 HP
Pumprate:	200	Testrate:	400
Drawdown:	400	Drillog:	X
Lastname:	CAVE CREEK WATER CO,	Firstname:	Not Reported
Company:	Not Reported		
Address:	4231 N 44TH ST		
City:	PHOENIX	State:	AZ
Zipcode:	85018	Cancelled:	Not Reported

Registryid:	518050	Pump1984:	0
Pump1985:	0	Pump1986:	0
Pump1987:	0	Pump1988:	96
Pump1989:	99.1	Pump1990:	97.5
Pump1991:	90.8	Pump1992:	83.4
Pump1993:	81.6	Pump1994:	123.9
Pump1995:	103.8	Pump1996:	101
Pump1997:	99.9	Pump1998:	129.8
Pump1999:	140.3	Pumptotal:	1419.9

Driller:	7
Company:	LAYNE CHRISTENSEN COMPANY
Address:	12030 EAST RIGGS ROAD CHANDLER, AZ 85249

N76 **West** **1/2 - 1 Mile** **Lower**	**AZ WELLS**	**AZWR634407**

Registryid:	634407	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	34	Acre160:	NE
Acre40:	NW	Acre10:	NW
Utmx:	413683.9	Utmy:	3743204.8
Welltype:	EXEMPT	Welluse1:	ABANDONED
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	01/01/1960 00:00:00
Driller:	674	Welldepth:	150
Waterlevel:	20	Casingtype:	OTHER - BLACK STEEL - IRON - SEAMLESS
Casingdeep:	40	Casingwide:	6
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	5	Testrate:	5
Drawdown:	0	Drilllog:	Not Reported
Lastname:	CHILDS	Firstname:	GEORGE AND BONN
Company:	Not Reported		
Address:	6822 SKYLINE DRIVE		
City:	CAVE CREEK	State:	AZ
Zipcode:	85331	Cancelled:	Y

Driller:	674
Company:	COLLUM DRILLING, INC.
Address:	18 E. YEARLING ROAD PHOENIX, AZ 85027

77
NNW
1/2 - 1 Mile
Lower

AZ WELLS **AZWR601779**

Registryid:	601779	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	NW
Acre40:	SW	Acre10:	NW
Utmx:	414496.4	Utmy:	3744401.6
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	01/01/1950 00:00:00
Driller:	0	Welldepth:	110
Waterlevel:	40	Casingtype:	PLASTIC OR PVC
Casingdeep:	90	Casingwide:	6
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	30	Testrate:	30
Drawdown:	0	Drilllog:	Not Reported

Lastname:	BLACK	Firstname:	JUDY A
Company:	Not Reported		
Address:	208 VIRGINIA AVE		
City:	ALEXANDRIA	State:	VA
Zipcode:	22302	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported
	AZ

78
East
1/2 - 1 Mile
Higher

AZ WELLS **AZWR604781**

Registryid:	604781	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	36	Acre160:	NW
Acre40:	SE	Acre10:	NE
Utmx:	416689.4	Utmy:	3742784.5
Welltype:	NON-EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	MUNICIPAL
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	03/15/1982 00:00:00
Driller:	0	Welldepth:	1091
Waterlevel:	191	Casingtype:	STEEL - PERFORATED OR SLOTTED CASING
Casingdeep:	1091	Casingwide:	16
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	575	Testrate:	575
Drawdown:	0	Drilllog:	Not Reported
Lastname:	CAREFREE WATER CO,	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 702		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported

Registryid:	604781	Pump1984:	385.4
Pump1985:	213.82	Pump1986:	320.99
Pump1987:	452.9	Pump1988:	529.3
Pump1989:	492.2	Pump1990:	442.82
Pump1991:	500.01	Pump1992:	480.85
Pump1993:	490.14	Pump1994:	508.17
Pump1995:	458.88	Pump1996:	490.16
Pump1997:	529.01	Pump1998:	479.16
Pump1999:	264.9	Pumptotal:	7296.43

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported
	AZ

Map ID Direction Distance Elevation	Database	EDR ID Number
Q79 **WNW** **1/2 - 1 Mile** **Lower**	**AZ WELLS**	**AZWR634964**

Registryid:	634964	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	27	Acre160:	SE
Acre40:	SW	Acre10:	SW
Utmx:	413685.4	Utmy:	3743405.5
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	01/01/1956 00:00:00
Driller:	0	Welldepth:	96
Waterlevel:	0	Casingtype:	OTHER - BLACK STEEL - IRON - SEAMLESS
Casingdeep:	0	Casingwide:	6
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drilllog:	Not Reported
Lastname:	SIPCHENKO,L	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 45		
City:	CAVE CREEK	State:	AZ
Zipcode:	85331	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported AZ

GEOCHECK®- PHYSICAL SETTING SOURCE MAP FINDINGS
RADON

AREA RADON INFORMATION

Federal EPA Radon Zone for MARICOPA County: 2

Note: Zone 1 indoor average level > 4 pCi/L.
: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
: Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for MARICOPA COUNTY, AZ

Number of sites tested: 695

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	1.697 pCi/L	93%	7%	0%
Living Area - 2nd Floor	3.640 pCi/L	80%	20%	0%
Basement	2.242 pCi/L	79%	21%	0%

PHYSICAL SETTING SOURCE RECORDS SEARCHED

HYDROLOGIC INFORMATION

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 1999 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002 from the U.S. Fish and Wildlife Service.

HYDROGEOLOGIC INFORMATION

AQUIFLOW[R] Information System
Source: EDR proprietary database of groundwater flow information
EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit
Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database
The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the national Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

ADDITIONAL ENVIRONMENTAL RECORD SOURCES

FEDERAL WATER WELLS

PWS: Public Water Systems
Source: EPA/Office of Drinking Water
Telephone: 202-564-4099
Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data
Source: EPA/Office of Drinking Water
Telephone: 202-564-4099
Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: In November 1971 the United States Geological Survey (USGS) implemented a national water resource information tracking system. This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on more than 900,000 wells, springs, and other sources of groundwater.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

STATE RECORDS

Arizona Well Registration Database
Source: Department of Water Resources
Telephone: 602-771-1586
Contains information provided to ADWR's Operations Division by well drillers and/or owners.

RADON

Area Radon Information
Source: USGS
Telephone: 303-202-4210
The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones
Source: EPA
Telephone: 202-564-9370
Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

OTHER

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

EDR Radius Map with GeoCheck Inquiry Number 896955.6s

The EDR Radius Map
with GeoCheck®

Carefree Drainage Master Plan
Stagecoach Pass Wash Trib.
Carefree, AZ 85377

Inquiry Number: 896955.6s

December 12, 2002

Environmental Data Resources, Inc.

The Source For Environmental Risk Management Data

3530 Post Road
Southport, Connecticut 06890

Nationwide Customer Service

Telephone: 1-800-352-0050
Fax: 1-800-231-6802
Internet: www.edrnet.com

FORM-ACP

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GEOCHECK ADDENDUM

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Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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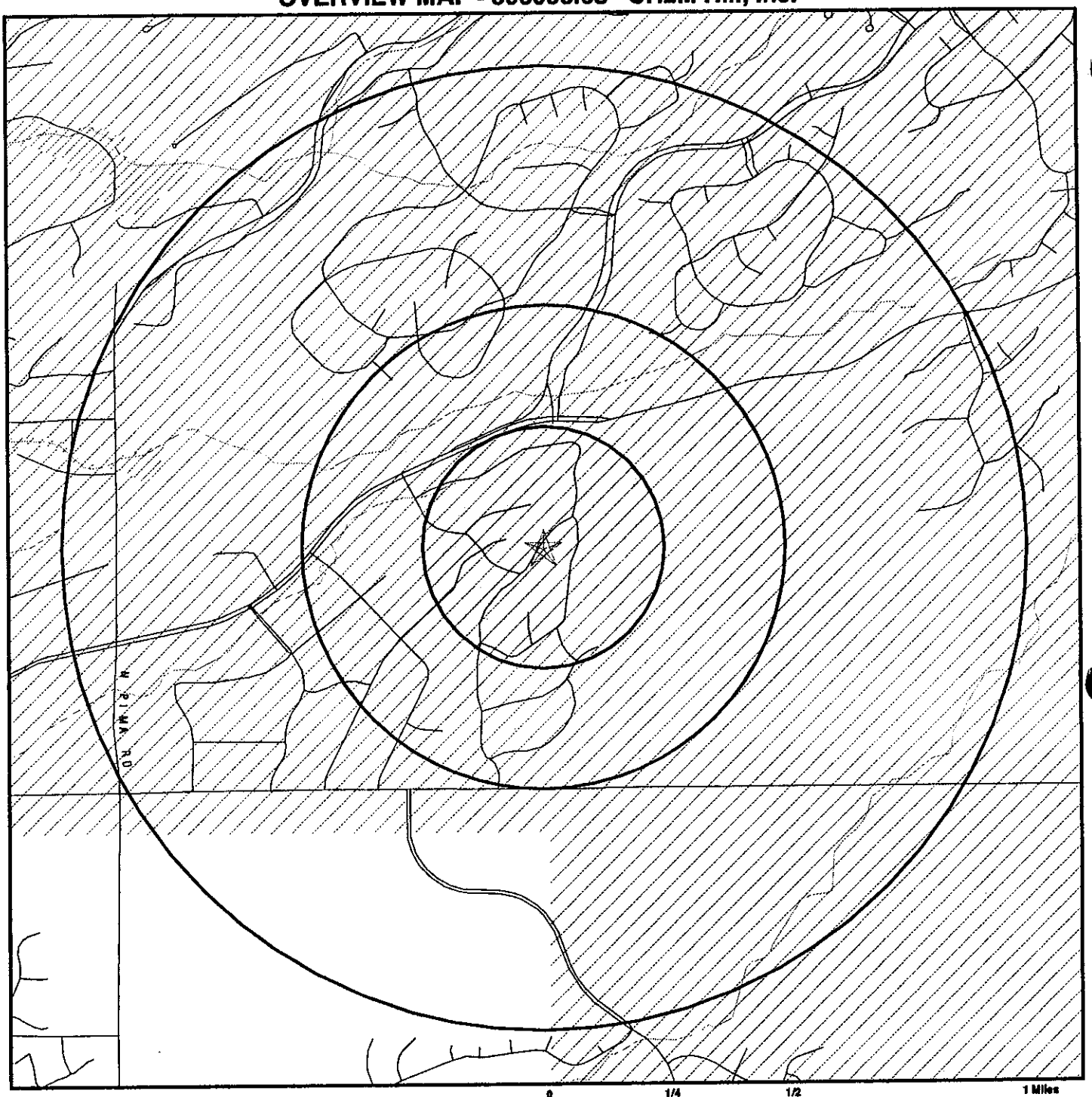
EXECUTIVE SUMMARY

Due to poor or inadequate address information, the following sites were not mapped:

Site Name	Database(s)
CAMP CREEK - TONTO NATIONAL FOREST	WWFAC
CAREFREE CLEANERS	RCRIS-SQG, FINDS

OVERVIEW MAP - 896955.6s - CH2M Hill, Inc.



- ★ Target Property
- ▲ Sites at elevations higher than or equal to the target property
- ◆ Sites at elevations lower than the target property
- ♟ Coal Gasification Sites
- National Priority List Sites
- Landfill Sites
- Power transmission lines
- Oil & Gas pipelines
- 100-year flood zone
- 500-year flood zone
- Dept. of Defense Sites
- Water Quality Assurance Revolving Fund Areas

TARGET PROPERTY:	Carefree Drainage Master Plan	CUSTOMER:	CH2M Hill, Inc.
ADDRESS:	Stagecoach Pass Wash Trib.	CONTACT:	Monique Chaisson
CITY/STATE/ZIP:	Carefree AZ 85377	INQUIRY #:	896955.6s
LAT/LONG:	33.8211 / 111.8759	DATE:	December 12, 2002 3:43 pm

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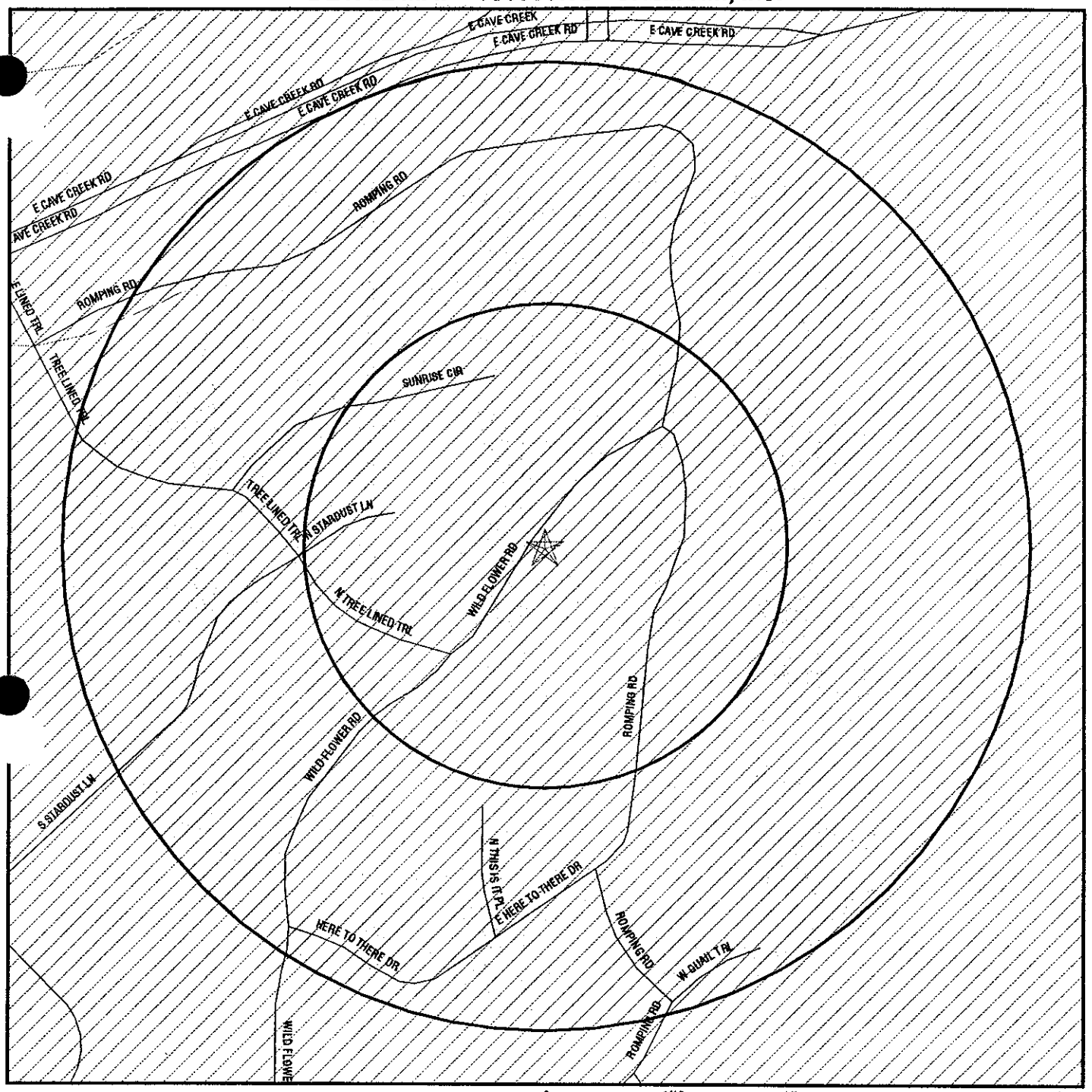
DETAIL MAP - 896955.6s - CH2M Hill, Inc.



0 1/16 1/8 1/4 Miles

- ☆ Target Property
- ▲ Sites at elevations higher than or equal to the target property
- ◆ Sites at elevations lower than the target property
- Coal Gasification Sites
- Sensitive Receptors
- National Priority List Sites
- Landfill Sites
- Power transmission lines
- Oil & Gas pipelines
- 100-year flood zone
- 500-year flood zone
- Dept. of Defense Sites
- Water Quality Assurance Revolving Fund Areas

TARGET PROPERTY:	Carefree Drainage Master Plan	CUSTOMER:	CH2M Hill, Inc.
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LAT/LONG:	33.8211 / 111.8759	DATE:	December 12, 2002 3:43 pm

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MAP FINDINGS SUMMARY

Database	Target Property	Search Distance (Miles)	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
FEDERAL ASTM STANDARD								
NPL		1.000	0	0	0	0	NR	0
Proposed NPL		1.000	0	0	0	0	NR	0
CERCLIS		0.500	0	0	0	NR	NR	0
CERC-NFRAP		0.250	0	0	NR	NR	NR	0
CORRACTS		1.000	0	0	0	0	NR	0
RCRIS-TSD		0.500	0	0	0	NR	NR	0
RCRIS Lg. Quan. Gen.		0.250	0	0	NR	NR	NR	0
RCRIS Sm. Quan. Gen.		0.250	0	0	NR	NR	NR	0
ERNS		TP	NR	NR	NR	NR	NR	0
STATE ASTM STANDARD								
SPL		1.000	0	0	0	0	NR	0
State Haz. Waste		1.000	0	0	0	0	NR	0
State Landfill		0.500	0	0	0	NR	NR	0
LUST		0.500	0	0	0	NR	NR	0
UST		0.250	0	0	NR	NR	NR	0
AZ WQARF		1.000	0	0	0	0	NR	0
FEDERAL ASTM SUPPLEMENTAL								
CONSENT		1.000	0	0	0	0	NR	0
ROD		1.000	0	0	0	0	NR	0
Delisted NPL		1.000	0	0	0	0	NR	0
FINDS		TP	NR	NR	NR	NR	NR	0
HMIRS		TP	NR	NR	NR	NR	NR	0
MLTS		TP	NR	NR	NR	NR	NR	0
MINES		0.250	0	0	NR	NR	NR	0
NPL Liens		TP	NR	NR	NR	NR	NR	0
PADS		TP	NR	NR	NR	NR	NR	0
RAATS		TP	NR	NR	NR	NR	NR	0
TRIS		TP	NR	NR	NR	NR	NR	0
TSCA		TP	NR	NR	NR	NR	NR	0
SSTS		TP	NR	NR	NR	NR	NR	0
FTTS		TP	NR	NR	NR	NR	NR	0
STATE OR LOCAL ASTM SUPPLEMENTAL								
AST		TP	NR	NR	NR	NR	NR	0
AZ Spills		TP	NR	NR	NR	NR	NR	0
AZ DOD		0.500	0	0	0	NR	NR	0
WWFAC		0.500	0	0	0	NR	NR	0
Aquifer		TP	NR	NR	NR	NR	NR	0
Dry Wells		TP	NR	NR	NR	NR	NR	0
AZ AIRS		TP	NR	NR	NR	NR	NR	0
EDR PROPRIETARY HISTORICAL DATABASES								
Coal Gas		1.000	0	0	0	0	NR	0

EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc. (EDR). The report meets the government records search requirements of ASTM Standard Practice for Environmental Site Assessments, E 1527-00. Search distances are per ASTM standard or custom distances requested by the user.

TARGET PROPERTY INFORMATION

ADDRESS

STAGECOACH PASS WASH TRIB.
CAREFREE, AZ 85377

COORDINATES

Latitude (North):	33.821100 - 33˚ 49' 16.0"
Longitude (West):	111.875900 - 111˚ 52' 33.2"
Universal Tranverse Mercator:	Zone 12
UTM X (Meters):	418940.3
UTM Y (Meters):	3742471.2

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property:	2433111-G8 CAVE CREEK, AZ
Source:	USGS 7.5 min quad index

TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the ASTM E 1527-00 search radius around the target property for the following databases:

FEDERAL ASTM STANDARD

NPL..... National Priority List
Proposed NPL..... Proposed National Priority List Sites
CERCLIS..... Comprehensive Environmental Response, Compensation, and Liability Information System
CERC-NFRAP..... CERCLIS No Further Remedial Action Planned
CORRACTS..... Corrective Action Report
RCRIS-TSD..... Resource Conservation and Recovery Information System
RCRIS-LQG..... Resource Conservation and Recovery Information System
RCRIS-SQG..... Resource Conservation and Recovery Information System
ERNS..... Emergency Response Notification System

STATE ASTM STANDARD

SPL..... Superfund Program List
SHWS..... ZipAcids List
SWF/LF..... Directory of Solid Waste Facilities
LUST..... Leaking Underground Storage Tank Listing

UST..... Underground Storage Tank Listing
AZ WQARF..... Water Quality Assurance Revolving Fund Sites

FEDERAL ASTM SUPPLEMENTAL

CONSENT..... Superfund (CERCLA) Consent Decrees
ROD..... Records Of Decision
Delisted NPL..... National Priority List Deletions
FINDS..... Facility Index System/Facility Identification Initiative Program Summary Report
HMIRS..... Hazardous Materials Information Reporting System
MLTS..... Material Licensing Tracking System
MINES..... Mines Master Index File
NPL Liens..... Federal Superfund Liens
PADS..... PCB Activity Database System
RAATS..... RCRA Administrative Action Tracking System
TRIS..... Toxic Chemical Release Inventory System
TSCA..... Toxic Substances Control Act
SSTS..... Section 7 Tracking Systems
FTTS..... FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

STATE OR LOCAL ASTM SUPPLEMENTAL

AST..... List of Aboveground Storage Tanks
AZ Spills..... Hazardous Material Logbook
AZ DOD..... Department of Defense Sites
WWFAC..... Waste Water Treatment Facilities
Aquifer..... Waste Water Treatment Facilities
Dry Wells..... Drywell Registration
AZ AIRS..... Arizona Airs Database

EDR PROPRIETARY HISTORICAL DATABASES

Coal Gas..... Former Manufactured Gas (Coal Gas) Sites

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were not identified.

Date of Government Version: 09/15/02
Date Made Active at EDR: 10/28/02
Database Release Frequency: Quarterly
Date of Data Arrival at EDR: 10/03/02
Elapsed ASTM days: 25
Date of Last EDR Contact: 09/23/02

CORRACTS: Corrective Action Report
Source: EPA
Telephone: 800-424-9346
CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 05/02/02
Date Made Active at EDR: 07/15/02
Database Release Frequency: Semi-Annually
Date of Data Arrival at EDR: 05/06/02
Elapsed ASTM days: 70
Date of Last EDR Contact: 09/09/02

RCRIS: Resource Conservation and Recovery Information System
Source: EPA/NTIS
Telephone: 800-424-9346
Resource Conservation and Recovery Information System. RCRIS includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA).

Date of Government Version: 09/09/02
Date Made Active at EDR: 10/28/02
Database Release Frequency: Varies
Date of Data Arrival at EDR: 09/24/02
Elapsed ASTM days: 34
Date of Last EDR Contact: 09/24/02

ERNS: Emergency Response Notification System
Source: EPA/NTIS
Telephone: 202-260-2342
Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 12/31/01
Date Made Active at EDR: 07/15/02
Database Release Frequency: Varies
Date of Data Arrival at EDR: 07/02/02
Elapsed ASTM days: 13
Date of Last EDR Contact: 10/28/02

FEDERAL ASTM SUPPLEMENTAL RECORDS

BRS: Biennial Reporting System
Source: EPA/NTIS
Telephone: 800-424-9346
The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/99
Database Release Frequency: Biennially
Date of Last EDR Contact: 09/16/02
Date of Next Scheduled EDR Contact: 12/16/02

CONSENT: Superfund (CERCLA) Consent Decrees
Source: EPA Regional Offices
Telephone: Varies
Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: N/A
Database Release Frequency: Varies
Date of Last EDR Contact: N/A
Date of Next Scheduled EDR Contact: N/A

ROD: Records Of Decision
Source: EPA
Telephone: 703-416-0223
Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 12/21/01
Database Release Frequency: Annually

Date of Last EDR Contact: 10/07/02
Date of Next Scheduled EDR Contact: 01/06/03

DELISTED NPL: National Priority List Deletions
Source: EPA
Telephone: N/A
The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 10/18/02
Database Release Frequency: Quarterly

Date of Last EDR Contact: 11/04/02
Date of Next Scheduled EDR Contact: 02/03/03

FINDS: Facility Index System/Facility Identification Initiative Program Summary Report
Source: EPA
Telephone: N/A
Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 10/10/02
Database Release Frequency: Quarterly

Date of Last EDR Contact: 10/07/02
Date of Next Scheduled EDR Contact: 01/06/03

HMIRS: Hazardous Materials Information Reporting System
Source: U.S. Department of Transportation
Telephone: 202-366-4555
Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 07/31/02
Database Release Frequency: Annually

Date of Last EDR Contact: 10/21/02
Date of Next Scheduled EDR Contact: 01/20/03

MLTS: Material Licensing Tracking System
Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 10/21/02
Database Release Frequency: Quarterly

Date of Last EDR Contact: 10/08/02
Date of Next Scheduled EDR Contact: 01/06/03

MINES: Mines Master Index File
Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959

Date of Government Version: 09/10/02
Database Release Frequency: Semi-Annually

Date of Last EDR Contact: 09/30/02
Date of Next Scheduled EDR Contact: 12/30/02

NPL LIENS: Federal Superfund Liens
Source: EPA
Telephone: 205-564-4267
Federal Superfund Liens. Under the authority granted the USEPA by the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner receives notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/91
Database Release Frequency: No Update Planned
Date of Last EDR Contact: 11/25/02
Date of Next Scheduled EDR Contact: 02/24/03

PADS: PCB Activity Database System
Source: EPA
Telephone: 202-564-3887
PCB Activity Database. PADS identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 06/28/02
Database Release Frequency: Annually
Date of Last EDR Contact: 11/13/02
Date of Next Scheduled EDR Contact: 02/10/03

RAATS: RCRA Administrative Action Tracking System
Source: EPA
Telephone: 202-564-4104
RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/95
Database Release Frequency: No Update Planned
Date of Last EDR Contact: 09/10/02
Date of Next Scheduled EDR Contact: 12/09/02

TRIS: *Toxic Chemical Release Inventory System*
Source: EPA
Telephone: 202-260-1531
Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/00
Database Release Frequency: Annually
Date of Last EDR Contact: 09/24/02
Date of Next Scheduled EDR Contact: 12/23/02

TSCA: Toxic Substances Control Act
Source: EPA
Telephone: 202-260-5521
Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/98
Database Release Frequency: Every 4 Years
Date of Last EDR Contact: 09/09/02
Date of Next Scheduled EDR Contact: 12/09/02

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
Source: EPA
Telephone: 202-564-2501

Date of Government Version: 04/25/02
Database Release Frequency: Quarterly
Date of Last EDR Contact: 09/24/02
Date of Next Scheduled EDR Contact: 12/23/02

SSTS: Section 7 Tracking Systems
Source: EPA
Telephone: 202-564-5008
Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 12/31/00
Database Release Frequency: Annually
Date of Last EDR Contact: 10/22/02
Date of Next Scheduled EDR Contact: 01/20/03

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-564-2501
FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/25/02
Database Release Frequency: Quarterly
Date of Last EDR Contact: 09/24/02
Date of Next Scheduled EDR Contact: 12/23/02

STATE OF ARIZONA ASTM STANDARD RECORDS

SPL: Superfund Program List
Source: Dept. of Environmental Quality
Telephone: 602-771-4360
The list is representative of the sites and potential sites within the jurisdiction of the Superfund Program Section. It is comprised of the following elements: 1) Water Quality Assurance Revolving Fund Registry Sites; 2) Potential WQARF Registry sites; 3) NPL sites; and 4) Department of Defense sites requiring SPS oversight.

Date of Government Version: 07/15/02
Date Made Active at EDR: 10/04/02
Database Release Frequency: Semi-Annually
Date of Data Arrival at EDR: 09/03/02
Elapsed ASTM days: 31
Date of Last EDR Contact: 12/02/02

SHWS: ZipAcids List
Source: Department of Environmental Quality
Telephone: 602-771-4360
The ACIDS list consists of more than 750 locations subject to investigation under the State Water Quality Assurance Revolving Fund (WQARF) and Federal CERCLA programs. The list is no longer updated by the state.

Date of Government Version: 01/03/00
Date Made Active at EDR: 05/16/00
Database Release Frequency: No Update Planned
Date of Data Arrival at EDR: 04/11/00
Elapsed ASTM days: 35
Date of Last EDR Contact: 10/21/02

SWF/LF: Directory of Solid Waste Facilities
Source: Department of Environmental Quality
Telephone: 602-771-4132
Solid Waste Facilities/Landfill Sites. SWF/LF type records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. Depending on the state, these may be active or inactive facilities or open dumps that failed to meet RCRA Subtitle D Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 11/01/00
Date Made Active at EDR: 02/01/01
Database Release Frequency: Annually
Date of Data Arrival at EDR: 01/02/01
Elapsed ASTM days: 30
Date of Last EDR Contact: 11/15/02

LUST: Leaking Underground Storage Tank Listing
Source: Department of Environmental Quality
Telephone: 602-771-4345
Leaking Underground Storage Tank Incident Reports. LUST records contain an inventory of reported leaking underground storage tank incidents. Not all states maintain these records, and the information stored varies by state.

Date of Government Version: 10/30/02
Date Made Active at EDR: 11/25/02
Database Release Frequency: Semi-Annually
Date of Data Arrival at EDR: 11/12/02
Elapsed ASTM days: 13
Date of Last EDR Contact: 11/12/02

UST: Underground Storage Tank Listing
Source: Department of Environmental Quality
Telephone: 602-771-4345
Registered Underground Storage Tanks. UST's are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA) and must be registered with the state department responsible for administering the UST program. Available information varies by state program.

Date of Government Version: 02/06/02
Date Made Active at EDR: 04/01/02
Database Release Frequency: Annually

Date of Data Arrival at EDR: 03/11/02
Elapsed ASTM days: 21
Date of Last EDR Contact: 11/12/02

WQARF: Water Quality Assurance Revolving Fund Sites
Source: Department of Environmental Quality
Telephone: 602-771-4360
Sites which may have an actual or potential impact upon the waters of the state, cause by hazardous substances. The WQARF program provides matching funds to political subdivisions and other state agencies for clean-up activities.

Date of Government Version: 03/08/02
Date Made Active at EDR: 04/30/02
Database Release Frequency: Annually

Date of Data Arrival at EDR: 03/25/02
Elapsed ASTM days: 36
Date of Last EDR Contact: 09/25/02

STATE OF ARIZONA ASTM SUPPLEMENTAL RECORDS

AST: List of Aboveground Storage Tanks
Source: Dept. of Building & Fire Safety
Telephone: 602-364-1003
Aboveground storage tanks that the Dept. of Building & Fire Safety have permitted.

Date of Government Version: 12/31/00
Database Release Frequency: Annually

Date of Last EDR Contact: 10/25/02
Date of Next Scheduled EDR Contact: 01/13/03

SPILLS: Hazardous Material Logbook
Source: Department of Environmental Quality
Telephone: 602-771-4153
ADEQ Emergency Response Unit. The ADEQ Emergency Response Unit documents chemical spills and incidents which are referred to the Unit. The logbook information for 1984-1986 consists of handwritten entries of the date, incident number and name of facility if known. Current logbooks are computerized and can be sorted by date, incident number, name, city (zip codes are not included), county, chemical and quantity.

Date of Government Version: 06/30/00
Database Release Frequency: Semi-Annually

Date of Last EDR Contact: 09/30/00
Date of Next Scheduled EDR Contact: 12/30/02

DOD: Department of Defense Sites
Source: Department of Environmental Quality
Telephone: 602-771-4360
These sites are federal facilities that are either being assessed for potential contamination, or have active remediation taking place on them.

Date of Government Version: 03/08/02
Database Release Frequency: Annually

Date of Last EDR Contact: 09/25/02
Date of Next Scheduled EDR Contact: 12/23/02

WWFAC: Waste Water Treatment Facilities
Source: Department of Environmental Quality
Telephone: 602-771-4623
Statewide list of waste water treatment facilities.

Date of Government Version: 12/12/00
Database Release Frequency: Varies

Date of Last EDR Contact: 11/25/02
Date of Next Scheduled EDR Contact: 02/24/03

AQUIFER: Waste Water Treatment Facilities
Source: Department of Environmental Quality
Telephone: 602-771-4623
Waste Water Treatment Facilities with APP (Aquifer Protection Permits.)

Date of Government Version: 11/01/01
Database Release Frequency: Semi-Annually

Date of Last EDR Contact: 10/28/02
Date of Next Scheduled EDR Contact: 01/27/03

DRY WELLS: Drywell Registration
Source: Department of Environmental Quality
Telephone: 602-771-4686
A drywell is a bored, drilled, or driven shaft or hole whose depth is greater than its width and is designed and constructed specifically for the disposal of storm water.

Date of Government Version: 09/01/02
Database Release Frequency: Semi-Annually

Date of Last EDR Contact: 09/23/02
Date of Next Scheduled EDR Contact: 12/23/02

AZ AIRS: Arizona Airs Database
Source: Department of Environmental Quality
Telephone: 602-771-2344
Arizona major (has the potential to emit over 100 tons of criteria pollutant) and minor (below 100 tons) sources.

Date of Government Version: 05/31/02
Database Release Frequency: Semi-Annually

Date of Last EDR Contact: 11/04/02
Date of Next Scheduled EDR Contact: 02/03/03

EDR PROPRIETARY HISTORICAL DATABASES

Former Manufactured Gas (Coal Gas) Sites: The existence and location of Coal Gas sites is provided exclusively to EDR by Real Property Scan, Inc. ©Copyright 1993 Real Property Scan, Inc. For a technical description of the types of hazards which may be found at such sites, contact your EDR customer service representative.

Disclaimer Provided by Real Property Scan, Inc.

The information contained in this report has predominantly been obtained from publicly available sources produced by entities other than Real Property Scan. While reasonable steps have been taken to insure the accuracy of this report, Real Property Scan does not guarantee the accuracy of this report. Any liability on the part of Real Property Scan is strictly limited to a refund of the amount paid. No claim is made for the actual existence of toxins at any site. This report does not constitute a legal opinion.

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

Oil/Gas Pipelines/Electrical Transmission Lines: This data was obtained by EDR from the USGS in 1994. It is referred to by USGS as GeoData Digital Line Graphs from 1:100,000-Scale Maps. It was extracted from the transportation category including some oil, but primarily gas pipelines and electrical transmission lines.

Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 1999 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002 from the U.S. Fish and Wildlife Service.

STREET AND ADDRESS INFORMATION

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GEOCHECK®- PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

CAREFREE DRAINAGE MASTER PLAN
STAGECOACH PASS WASH TRIB.
CAREFREE, AZ 85377

TARGET PROPERTY COORDINATES

Latitude (North):	33.821098 - 33° 49' 16.0"
Longitude (West):	111.875900 - 111° 52' 33.2"
Universal Tranverse Mercator:	Zone 12
UTM X (Meters):	418940.3
UTM Y (Meters):	3742471.2

EDR's GeoCheck Physical Setting Source Addendum has been developed to assist the environmental professional with the collection of physical setting source information in accordance with ASTM 1527-00, Section 7.2.3. Section 7.2.3 requires that a current USGS 7.5 Minute Topographic Map (or equivalent, such as the USGS Digital Elevation Model) be reviewed. It also requires that one or more additional physical setting sources be sought when (1) conditions have been identified in which hazardous substances or petroleum products are likely to migrate to or from the property, and (2) more information than is provided in the current USGS 7.5 Minute Topographic Map (or equivalent) is generally obtained, pursuant to local good commercial or customary practice, to assess the impact of migration of recognized environmental conditions in connection with the property. Such additional physical setting sources generally include information about the topographic, hydrologic, hydrogeologic, and geologic characteristics of a site, and wells in the area.

Assessment of the impact of contaminant migration generally has two principle investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata. EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Elapsed ASTM days: Provides confirmation that this EDR report meets or exceeds the 90-day updating requirement of the ASTM standard.

FEDERAL ASTM STANDARD RECORDS

NPL: National Priority List
Source: EPA
Telephone: N/A
National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 10/24/02
Date Made Active at EDR: 12/09/02
Database Release Frequency: Semi-Annually

Date of Data Arrival at EDR: 11/04/02
Elapsed ASTM days: 35
Date of Last EDR Contact: 11/04/02

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 3
Telephone 215-814-5418

EPA Region 4
Telephone 404-562-8033

EPA Region 6
Telephone: 214-655-6659

EPA Region 8
Telephone: 303-312-6774

Proposed NPL: Proposed National Priority List Sites
Source: EPA
Telephone: N/A

Date of Government Version: 10/24/02
Date Made Active at EDR: 12/09/02
Database Release Frequency: Semi-Annually

Date of Data Arrival at EDR: 11/04/02
Elapsed ASTM days: 35
Date of Last EDR Contact: 11/04/02

CERCLIS: Comprehensive Environmental Response, Compensation, and Liability Information System
Source: EPA
Telephone: 703-413-0223
CERCLIS contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). CERCLIS contains sites which are either proposed to or on the National Priorities List (NPL) and sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 08/15/02
Date Made Active at EDR: 10/28/02
Database Release Frequency: Quarterly

Date of Data Arrival at EDR: 09/23/02
Elapsed ASTM days: 35
Date of Last EDR Contact: 09/23/02

CERCLIS-NFRAP: CERCLIS No Further Remedial Action Planned
Source: EPA
Telephone: 703-413-0223
As of February 1995, CERCLIS sites designated "No Further Remedial Action Planned" (NFRAP) have been removed from CERCLIS. NFRAP sites may be sites where, following an initial investigation, no contamination was found, contamination was removed quickly without the need for the site to be placed on the NPL, or the contamination was not serious enough to require Federal Superfund action or NPL consideration. EPA has removed approximately 25,000 NFRAP sites to lift the unintended barriers to the redevelopment of these properties and has archived them as historical records so EPA does not needlessly repeat the investigations in the future. This policy change is part of the EPA's Brownfields Redevelopment Program to help cities, states, private investors and affected citizens to promote economic redevelopment of unproductive urban sites.

Date of Government Version: 09/15/02
Date Made Active at EDR: 10/28/02
Database Release Frequency: Quarterly

Date of Data Arrival at EDR: 10/03/02
Elapsed ASTM days: 25
Date of Last EDR Contact: 09/23/02

CORRACTS: Corrective Action Report
Source: EPA
Telephone: 800-424-9346
CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 05/02/02
Date Made Active at EDR: 07/15/02
Database Release Frequency: Semi-Annually

Date of Data Arrival at EDR: 05/06/02
Elapsed ASTM days: 70
Date of Last EDR Contact: 09/09/02

RCRIS: Resource Conservation and Recovery Information System
Source: EPA/NTIS
Telephone: 800-424-9346
Resource Conservation and Recovery Information System. RCRIS includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA).

Date of Government Version: 09/09/02
Date Made Active at EDR: 10/28/02
Database Release Frequency: Varies

Date of Data Arrival at EDR: 09/24/02
Elapsed ASTM days: 34
Date of Last EDR Contact: 09/24/02

ERNS: Emergency Response Notification System
Source: EPA/NTIS
Telephone: 202-260-2342
Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 12/31/01
Date Made Active at EDR: 07/15/02
Database Release Frequency: Varies

Date of Data Arrival at EDR: 07/02/02
Elapsed ASTM days: 13
Date of Last EDR Contact: 10/28/02

FEDERAL ASTM SUPPLEMENTAL RECORDS

BRS: Biennial Reporting System
Source: EPA/NTIS
Telephone: 800-424-9346
The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/99
Database Release Frequency: Biennially

Date of Last EDR Contact: 09/16/02
Date of Next Scheduled EDR Contact: 12/16/02

CONSENT: Superfund (CERCLA) Consent Decrees
Source: EPA Regional Offices
Telephone: Varies
Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: N/A
Database Release Frequency: Varies

Date of Last EDR Contact: N/A
Date of Next Scheduled EDR Contact: N/A

ROD: Records Of Decision
Source: EPA
Telephone: 703-416-0223
Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 12/21/01
Database Release Frequency: Annually

Date of Last EDR Contact: 10/07/02
Date of Next Scheduled EDR Contact: 01/06/03

DELISTED NPL: National Priority List Deletions
Source: EPA
Telephone: N/A
The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 10/18/02
Database Release Frequency: Quarterly

Date of Last EDR Contact: 11/04/02
Date of Next Scheduled EDR Contact: 02/03/03

FINDS: Facility Index System/Facility Identification Initiative Program Summary Report
Source: EPA
Telephone: N/A
Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 10/10/02
Database Release Frequency: Quarterly

Date of Last EDR Contact: 10/07/02
Date of Next Scheduled EDR Contact: 01/06/03

HMIRS: Hazardous Materials Information Reporting System
Source: U.S. Department of Transportation
Telephone: 202-366-4555
Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 07/31/02
Database Release Frequency: Annually

Date of Last EDR Contact: 10/21/02
Date of Next Scheduled EDR Contact: 01/20/03

MLTS: Material Licensing Tracking System
Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 10/21/02
Database Release Frequency: Quarterly

Date of Last EDR Contact: 10/08/02
Date of Next Scheduled EDR Contact: 01/06/03

MINES: Mines Master Index File
Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959

Date of Government Version: 09/10/02
Database Release Frequency: Semi-Annually

Date of Last EDR Contact: 09/30/02
Date of Next Scheduled EDR Contact: 12/30/02

NPL LIENS: Federal Superfund Liens
Source: EPA
Telephone: 205-564-4267
Federal Superfund Liens. Under the authority granted the USEPA by the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner receives notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/91
Database Release Frequency: No Update Planned
Date of Last EDR Contact: 11/25/02
Date of Next Scheduled EDR Contact: 02/24/03

PADS: PCB Activity Database System
Source: EPA
Telephone: 202-564-3887
PCB Activity Database. PADS identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 06/28/02
Database Release Frequency: Annually
Date of Last EDR Contact: 11/13/02
Date of Next Scheduled EDR Contact: 02/10/03

RAATS: RCRA Administrative Action Tracking System
Source: EPA
Telephone: 202-564-4104
RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/95
Database Release Frequency: No Update Planned
Date of Last EDR Contact: 09/10/02
Date of Next Scheduled EDR Contact: 12/09/02

TRIS: Toxic Chemical Release Inventory System
Source: EPA
Telephone: 202-260-1531
Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/00
Database Release Frequency: Annually
Date of Last EDR Contact: 09/24/02
Date of Next Scheduled EDR Contact: 12/23/02

TSCA: Toxic Substances Control Act
Source: EPA
Telephone: 202-260-5521
Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/98
Database Release Frequency: Every 4 Years
Date of Last EDR Contact: 09/09/02
Date of Next Scheduled EDR Contact: 12/09/02

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
Source: EPA
Telephone: 202-564-2501

Date of Government Version: 04/25/02
Database Release Frequency: Quarterly
Date of Last EDR Contact: 09/24/02
Date of Next Scheduled EDR Contact: 12/23/02

SSTS: Section 7 Tracking Systems
Source: EPA
Telephone: 202-564-5008
Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 12/31/00
Database Release Frequency: Annually
Date of Last EDR Contact: 10/22/02
Date of Next Scheduled EDR Contact: 01/20/03

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-564-2501
FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/25/02
Database Release Frequency: Quarterly
Date of Last EDR Contact: 09/24/02
Date of Next Scheduled EDR Contact: 12/23/02

STATE OF ARIZONA ASTM STANDARD RECORDS

SPL: Superfund Program List
Source: Dept. of Environmental Quality
Telephone: 602-771-4360
The list is representative of the sites and potential sites within the jurisdiction of the Superfund Program Section. It is comprised of the following elements: 1) Water Quality Assurance Revolving Fund Registry Sites; 2) Potential WQARF Registry sites; 3) NPL sites; and 4) Department of Defense sites requiring SPS oversight.

Date of Government Version: 07/15/02
Date Made Active at EDR: 10/04/02
Database Release Frequency: Semi-Annually
Date of Data Arrival at EDR: 09/03/02
Elapsed ASTM days: 31
Date of Last EDR Contact: 12/02/02

SHWS: ZipAcids List
Source: Department of Environmental Quality
Telephone: 602-771-4360
The ACIDS list consists of more than 750 locations subject to investigation under the State Water Quality Assurance Revolving Fund (WQARF) and Federal CERCLA programs. The list is no longer updated by the state.

Date of Government Version: 01/03/00
Date Made Active at EDR: 05/16/00
Database Release Frequency: No Update Planned
Date of Data Arrival at EDR: 04/11/00
Elapsed ASTM days: 35
Date of Last EDR Contact: 10/21/02

SWF/LF: Directory of Solid Waste Facilities
Source: Department of Environmental Quality
Telephone: 602-771-4132
Solid Waste Facilities/Landfill Sites. SWF/LF type records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. Depending on the state, these may be active or inactive facilities or open dumps that failed to meet RCRA Subtitle D Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 11/01/00
Date Made Active at EDR: 02/01/01
Database Release Frequency: Annually
Date of Data Arrival at EDR: 01/02/01
Elapsed ASTM days: 30
Date of Last EDR Contact: 11/15/02

LUST: Leaking Underground Storage Tank Listing
Source: Department of Environmental Quality
Telephone: 602-771-4345
Leaking Underground Storage Tank Incident Reports. LUST records contain an inventory of reported leaking underground storage tank incidents. Not all states maintain these records, and the information stored varies by state.

Date of Government Version: 10/30/02
Date Made Active at EDR: 11/25/02
Database Release Frequency: Semi-Annually
Date of Data Arrival at EDR: 11/12/02
Elapsed ASTM days: 13
Date of Last EDR Contact: 11/12/02

UST: *Underground Storage Tank Listing*
Source: Department of Environmental Quality
Telephone: 602-771-4345
Registered Underground Storage Tanks. UST's are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA) and must be registered with the state department responsible for administering the UST program. Available information varies by state program.

Date of Government Version: 02/06/02
Date Made Active at EDR: 04/01/02
Database Release Frequency: Annually

Date of Data Arrival at EDR: 03/11/02
Elapsed ASTM days: 21
Date of Last EDR Contact: 11/12/02

WQARF: Water Quality Assurance Revolving Fund Sites
Source: Department of Environmental Quality
Telephone: 602-771-4360
Sites which may have an actual or potential impact upon the waters of the state, cause by hazardous substances. The WQARF program provides matching funds to political subdivisions and other state agencies for clean-up activities.

Date of Government Version: 03/08/02
Date Made Active at EDR: 04/30/02
Database Release Frequency: Annually

Date of Data Arrival at EDR: 03/25/02
Elapsed ASTM days: 36
Date of Last EDR Contact: 09/25/02

STATE OF ARIZONA ASTM SUPPLEMENTAL RECORDS

AST: List of Aboveground Storage Tanks
Source: Dept. of Building & Fire Safety
Telephone: 602-364-1003
Aboveground storage tanks that the Dept. of Building & Fire Safety have permitted.

Date of Government Version: 12/31/00
Database Release Frequency: Annually

Date of Last EDR Contact: 10/25/02
Date of Next Scheduled EDR Contact: 01/13/03

SPILLS: Hazardous Material Logbook
Source: Department of Environmental Quality
Telephone: 602-771-4153
ADEQ Emergency Response Unit. The ADEQ Emergency Response Unit documents chemical spills and incidents which are referred to the Unit. The logbook information for 1984-1986 consists of handwritten entries of the date, incident number and name of facility if known. Current logbooks are computerized and can be sorted by date, incident number, name, city (zip codes are not included), county, chemical and quantity.

Date of Government Version: 06/30/00
Database Release Frequency: Semi-Annually

Date of Last EDR Contact: 09/30/00
Date of Next Scheduled EDR Contact: 12/30/02

DOD: Department of Defense Sites
Source: Department of Environmental Quality
Telephone: 602-771-4360
These sites are federal facilities that are either being assessed for potential contamination, or have active remediation taking place on them.

Date of Government Version: 03/08/02
Database Release Frequency: Annually

Date of Last EDR Contact: 09/25/02
Date of Next Scheduled EDR Contact: 12/23/02

WWFAC: Waste Water Treatment Facilities
Source: Department of Environmental Quality
Telephone: 602-771-4623
Statewide list of waste water treatment facilities.

Date of Government Version: 12/12/00
Database Release Frequency: Varies

Date of Last EDR Contact: 11/25/02
Date of Next Scheduled EDR Contact: 02/24/03

AQUIFER: Waste Water Treatment Facilities
Source: Department of Environmental Quality
Telephone: 602-771-4623
Waste Water Treatment Facilities with APP (Aquifer Protection Permits.)

Date of Government Version: 11/01/01
Database Release Frequency: Semi-Annually

Date of Last EDR Contact: 10/28/02
Date of Next Scheduled EDR Contact: 01/27/03

DRY WELLS: Drywell Registration
Source: Department of Environmental Quality
Telephone: 602-771-4686
A drywell is a bored, drilled, or driven shaft or hole whose depth is greater than its width and is designed and constructed specifically for the disposal of storm water.

Date of Government Version: 09/01/02
Database Release Frequency: Semi-Annually
Date of Last EDR Contact: 09/23/02
Date of Next Scheduled EDR Contact: 12/23/02

AZ AIRS: Arizona Airs Database
Source: Department of Environmental Quality
Telephone: 602-771-2344
Arizona major (has the potential to emit over 100 tons of criteria pollutant) and minor (below 100 tons) sources.

Date of Government Version: 05/31/02
Database Release Frequency: Semi-Annually
Date of Last EDR Contact: 11/04/02
Date of Next Scheduled EDR Contact: 02/03/03

EDR PROPRIETARY HISTORICAL DATABASES

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Oil/Gas Pipelines/Electrical Transmission Lines: This data was obtained by EDR from the USGS in 1994. It is referred to by USGS as GeoData Digital Line Graphs from 1:100,000-Scale Maps. It was extracted from the transportation category including some oil, but primarily gas pipelines and electrical transmission lines.

Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 1999 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002 from the U.S. Fish and Wildlife Service.

STREET AND ADDRESS INFORMATION

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GEOCHECK ®- PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

CAREFREE DRAINAGE MASTER PLAN
GALLOWAY WASH
CAREFREE, AZ 85377

TARGET PROPERTY COORDINATES

Latitude (North):	33.824699 - 33˚ 49' 28.9"
Longitude (West):	111.906799 - 111˚ 54' 24.5"
Universal Tranverse Mercator:	Zone 12
UTM X (Meters):	416084.1
UTM Y (Meters):	3742895.0

EDR's GeoCheck Physical Setting Source Addendum has been developed to assist the environmental professional with the collection of physical setting source information in accordance with ASTM 1527-00, Section 7.2.3. Section 7.2.3 requires that a current USGS 7.5 Minute Topographic Map (or equivalent, such as the USGS Digital Elevation Model) be reviewed. It also requires that one or more additional physical setting sources be sought when (1) conditions have been identified in which hazardous substances or petroleum products are likely to migrate to or from the property, and (2) more information than is provided in the current USGS 7.5 Minute Topographic Map (or equivalent) is generally obtained, pursuant to local good commercial or customary practice, to assess the impact of migration of recognized environmental conditions in connection with the property. Such additional physical setting sources generally include information about the topographic, hydrologic, hydrogeologic, and geologic characteristics of a site, and wells in the area.

Assessment of the impact of contaminant migration generally has two principle investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata. EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

TOPOGRAPHIC INFORMATION

Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

USGS TOPOGRAPHIC MAP ASSOCIATED WITH THIS SITE

Target Property: 2433111-G8 CAVE CREEK, AZ
Source: USGS 7.5 min quad index

GENERAL TOPOGRAPHIC GRADIENT AT TARGET PROPERTY

Target Property: General WSW

Source: General Topographic Gradient has been determined from the USGS 1 Degree Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

Target Property County	FEMA Flood Electronic Data
MARICOPA, AZ	YES - refer to the Overview Map and Detail Map

Flood Plain Panel at Target Property: 04013C0809G

Additional Panels in search area:
04013C0850D
04013C0807G
04013C0806G
04013C0808G
04013C0805F
04013C0815G
04013C0820E

NATIONAL WETLAND INVENTORY

NWI Quad at Target Property	NWI Electronic Data Coverage
NOT AVAILABLE	Not Available

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Site-Specific Hydrogeological Data*:

Search Radius:	2.0 miles
Status:	Not found

AQUIFLOW®

Search Radius: 2.000 Miles.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined *hydrogeologically, and the depth to water table.*

MAP ID	LOCATION FROM TP	GENERAL DIRECTION GROUNDWATER FLOW
Not Reported		

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

Era:	Cenozoic
System:	Quaternary
Series:	Quaternary
Code:	Q *(decoded above as Era, System & Series)*

GEOLOGIC AGE IDENTIFICATION

Category: Stratifed Sequence

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps. The following information is based on Soil Conservation Service STATSGO data.

* ©1996 Site-specific hydrogeological data gathered by CERCLIS Alerts, Inc., Bainbridge Island, WA. All rights reserved. All of the information and opinions presented are those of the cited EPA report(s), which were completed under a Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS) investigation.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Component Name: GRAN

Soil Surface Texture: very gravelly - sandy loam

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class: Well drained. Soils have intermediate water holding capacity. Depth to water table is more than 6 feet.

Hydric Status: Soil does not meet the requirements for a hydric soil.

Corrosion Potential - Uncoated Steel: HIGH

Depth to Bedrock Min: > 20 inches

Depth to Bedrock Max: > 40 inches

Soil Layer Information

	Boundary			Classification			
Layer	**Upper**	**Lower**	**Soil Texture Class**	**AASHTO Group**	**Unified Soil**	**Permeability Rate (in/hr)**	**Soil Reaction (pH)**
1	0 inches	1 inches	very gravelly - sandy loam	Granular materials (35 pct. or less passing No. 200), Stone Fragments, Gravel and Sand.	COURSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 6.00 Min: 2.00	Max: 8.40 Min: 7.40
2	1 inches	12 inches	very gravelly - sandy clay	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COURSE-GRAINED SOILS, Sands, Sands with fines, Clayey sand.	Max: 0.60 Min: 0.20	Max: 8.40 Min: 7.40
3	12 inches	36 inches	weathered bedrock	Not reported	Not reported	Max: 0.00 Min: 0.00	Max: 0.00 Min: 0.00
4	36 inches	40 inches	unweathered bedrock	Not reported	Not reported	Max: 0.00 Min: 0.00	Max: 0.00 Min: 0.00

OTHER SOIL TYPES IN AREA

Based on Soil Conservation Service STATSGO data, the following additional subordinant soil types may appear within the general area of target property.

Soil Surface Textures: unweathered bedrock
very gravelly - clay loam

Surficial Soil Types: unweathered bedrock
very gravelly - clay loam

Shallow Soil Types: No Other Soil Types

Deeper Soil Types: No Other Soil Types

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

ADDITIONAL ENVIRONMENTAL RECORD SOURCES

According to ASTM E 1527-00, Section 7.2.2, "one or more additional state or local sources of environmental records may be checked, in the discretion of the environmental professional, to enhance and supplement federal and state sources... Factors to consider in determining which local or additional state records, if any, should be checked include (1) whether they are reasonably ascertainable, (2) whether they are sufficiently useful, accurate, and complete in light of the objective of the records review (see 7.1.1), and (3) whether they are obtained, pursuant to local, good commercial or customary practice." One of the record sources listed in Section 7.2.2 is water well information. Water well information can be used to assist the environmental professional in assessing sources that may impact groundwater flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

WELL SEARCH DISTANCE INFORMATION

DATABASE	SEARCH DISTANCE (miles)
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 1 mile
State Database	1.000

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
A1	334930111543001	1/8 - 1/4 Mile West
B4	334918111542801	1/8 - 1/4 Mile SSW
B7	334914111543301	1/4 - 1/2 Mile SSW
C10	334926111535801	1/4 - 1/2 Mile East
G24	334919111534301	1/2 - 1 Mile ESE
H25	334943111545901	1/2 - 1 Mile WNW
J34	335004111545901	1/2 - 1 Mile NW
K35	334924111532401	1/2 - 1 Mile East

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
A2	AZ0407015	1/8 - 1/4 Mile NW

Note: PWS System location is not always the same as well location.

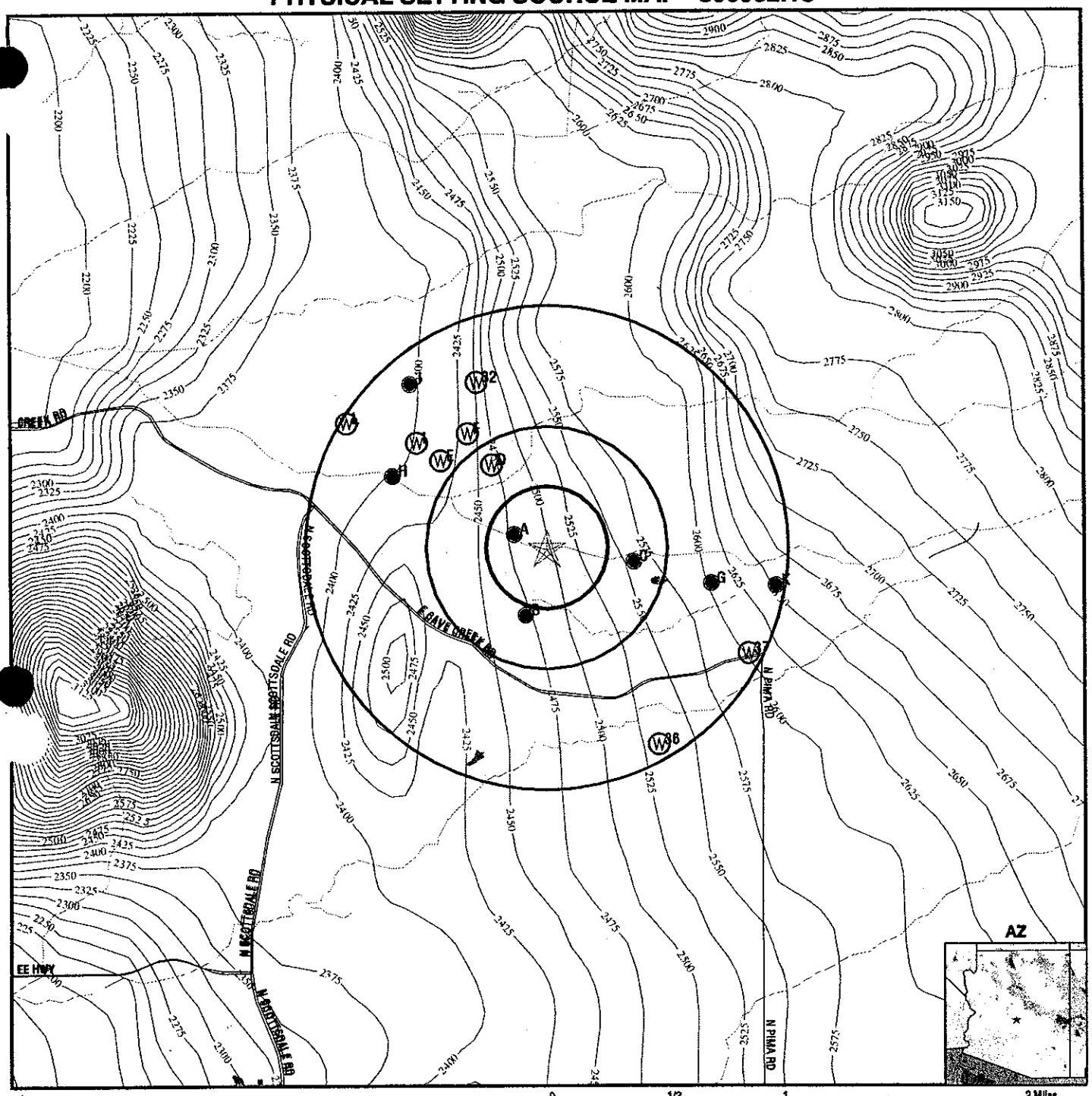
STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
A3	AZWR604780	1/8 - 1/4 Mile WNW
B5	AZWR503642	1/4 - 1/2 Mile South
B6	AZWR611876	1/4 - 1/2 Mile South
C8	AZWR604781	1/4 - 1/2 Mile East
D9	AZWR801084	1/4 - 1/2 Mile NNW
D11	AZWR556858	1/4 - 1/2 Mile NW
D12	AZWR803769	1/4 - 1/2 Mile NNW

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
D13	AZWR803770	1/4 - 1/2 Mile NNW
E14	AZWR514904	1/2 - 1 Mile NW
E15	AZWR800671	1/2 - 1 Mile NW
F16	AZWR512174	1/2 - 1 Mile NNW
F17	AZWR572237	1/2 - 1 Mile NNW
E18	AZWR628046	1/2 - 1 Mile NW
E19	AZWR508721	1/2 - 1 Mile NW
F20	AZWR602366	1/2 - 1 Mile NW
F21	AZWR648169	1/2 - 1 Mile NW
F22	AZWR806754	1/2 - 1 Mile NW
E23	AZWR604779	1/2 - 1 Mile WNW
I26	AZWR632123	1/2 - 1 Mile NW
I27	AZWR602835	1/2 - 1 Mile NW
G28	AZWR605050	1/2 - 1 Mile East
H29	AZWR602820	1/2 - 1 Mile WNW
H30	AZWR803530	1/2 - 1 Mile WNW
G31	AZWR572380	1/2 - 1 Mile ESE
32	AZWR638748	1/2 - 1 Mile NNW
J33	AZWR629982	1/2 - 1 Mile NW
36	AZWR579440	1/2 - 1 Mile SSE
37	AZWR501421	1/2 - 1 Mile ESE
L38	AZWR638233	1/2 - 1 Mile NW
K39	AZWR606413	1/2 - 1 Mile East
K40	AZWR511364	1/2 - 1 Mile East
L41	AZWR640595	1/2 - 1 Mile WNW
L42	AZWR803838	1/2 - 1 Mile WNW

PHYSICAL SETTING SOURCE MAP - 896962.1s



County Boundary
Major Roads
Contour Lines
Water Wells
Public Water Supply Wells
Groundwater Flow Direction
Indeterminate Groundwater Flow at Location
Groundwater Flow Varies at Location
Cluster of Multiple Icons

Earthquake epicenter, Richter 5 or greater
Closest Hydrogeological Data

TARGET PROPERTY:	Carefree Drainage Master Plan	CUSTOMER:	CH2M Hill, Inc.
ADDRESS:	Galloway Wash	CONTACT:	Monique Chaisson
CITY/STATE/ZIP:	Carefree AZ 85377	INQUIRY #:	896962.1s
LAT/LONG:	33.8247 / 111.9068	DATE:	December 12, 2002 1:35 pm

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Map ID Direction Distance Elevation	Database	EDR ID Number
A1 **West** **1/8 - 1/4 Mile** **Lower**	**FED USGS**	**334930111543001**

BASIC WELL DATA

Site Type:	Single well, other than collector or Ranney type		
Year Constructed:	Not Reported	County:	Maricopa
Altitude:	2440.00 ft.	State:	Arizona
Well Depth:	535.00 ft.	Topographic Setting:	Not Reported
Depth to Water Table:	104.00 ft.	Prim. Use of Site:	Withdrawal of water
Date Measured:	04011969	Prim. Use of Water:	Public supply

A2 **NW** **1/8 - 1/4 Mile** **Lower**	**FRDS PWS**	**AZ0407015**

PWS ID:	AZ0407015	PWS Status:	Not Reported
Date Initiated:	Not Reported	Date Deactivated:	Not Reported
PWS Name:	CAREFREE WATER CO INC PO BOX 702 CAREFREE, AZ 85377		
Addressee / Facility:	System Owner/Responsible Party CAREFREE WATER CO INC P.O. BOX 7724 PHOENIX, AZ 85011		
Facility Latitude:	33 49 51	Facility Longitude:	111 55 00
Facility Latitude:	33 49 33	Facility Longitude:	111 54 29
Facility Latitude:	*33 48 47*	*Facility Longitude:*	*111 52 50*
Facility Latitude:	33 48 47	Facility Longitude:	111 53 24
Facility Latitude:	33 49 22	Facility Longitude:	111 53 59
City Served:	CAREFREE		
Treatment Class:	Untreated	Population:	2400

PWS currently has or had major violation(s) or enforcement: Yes

Violations information not reported.

ENFORCEMENT INFORMATION:

System Name:	CAREFREE WATER CO INC		
Violation Type:	Monitoring, Routine Minor (TCR)		
Contaminant:	COLIFORM (TCR)		
Compliance Period:	*1998-01-01 - 1998-01-31*	Analytical Value:	*0000000.000000000*
Violation ID:	98036146	Enforcement ID:	Not Reported
Enforcement Date:	Not Reported	Enf. Action:	Not Reported

A3 **WNW** **1/8 - 1/4 Mile** **Lower**	**AZ WELLS**	**AZWR604780**

Registryid:	604780	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	35	Acre160:	NE
Acre40:	NE	Acre10:	SE
Utmx:	415885.9	Utmy:	3742991.5
Welltype:	NON-EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	MUNICIPAL
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	01/01/1961 00:00:00
Driller:	0	Welldepth:	535
Waterlevel:	132	Casingtype:	STEEL - PERFORATED OR SLOTTED CASING
Casingdeep:	535	Casingwide:	16
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	140	Testrate:	140
Drawdown:	0	Drillog:	Not Reported
Lastname:	CAREFREE WATER CO,	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 702		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported

Registryid:	604780	Pump1984:	122.1
Pump1985:	137.84	Pump1986:	22.76
Pump1987:	.5	Pump1988:	.09
Pump1989:	20.66	Pump1990:	39.9
Pump1991:	21.4	Pump1992:	14.33
Pump1993:	9.54	Pump1994:	24.34
Pump1995:	36.77	Pump1996:	31.92
Pump1997:	27.93	Pump1998:	18.25
Pump1999:	11.88	Pumptotal:	540.27

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported
	AZ

B4
SSW
1/8 - 1/4 Mile
Lower

FED USGS **334918111542801**

BASIC WELL DATA

Site Type:	Single well, other than collector or Ranney type		
Year Constructed:	1972	County:	Maricopa
Altitude:	2455.00 ft.	State:	Arizona
Well Depth:	385.00 ft.	Topographic Setting:	Not Reported
Depth to Water Table:	105.00 ft.	Prim. Use of Site:	Not Reported
Date Measured:	04011972	Prim. Use of Water:	Not Reported

B5
South
1/4 - 1/2 Mile
Lower

AZ WELLS **AZWR503642**

Registryid:	503642	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	36	Acre160:	SW
Acre40:	NW	Acre10:	NW
Utmx:	416084	Utmy:	3742386.1
Welltype:	NON-EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	IRRIGATION
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	08/01/1982 00:00:00
Driller:	127	Welldepth:	900
Waterlevel:	141	Casingtype:	STEEL - PERFORATED OR SLOTTED CASING
Casingdeep:	360	Casingwide:	16
Pumptype:	SUBMERSIBLE	Pumppower:	ELECTRIC MOTOR 16 - 100 HP
Pumprate:	99	Testrate:	99
Drawdown:	160	Drillog:	X
Lastname:	CAREFREE WTR CO INC,	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 7724		
City:	PHOENIX	State:	AZ
Zipcode:	85011	Cancelled:	Not Reported

Registryid:	503642	Pump1984:	26.6
Pump1985:	0	Pump1986:	0
Pump1987:	0	Pump1988:	0
Pump1989:	0	Pump1990:	0
Pump1991:	0	Pump1992:	0
Pump1993:	0	Pump1994:	0
Pump1995:	0	Pump1996:	0
Pump1997:	19.75	Pump1998:	0
Pump1999:	0	Pumptotal:	46.35

Driller:	127
Company:	SPUR CROSS DEVELOPMENT, INC.
Address:	38219 N. 3RD AVENUE DESERT HILLS, AZ 85027

B6
South
1/4 - 1/2 Mile
Lower

AZ WELLS **AZWR611876**

Registryid:	611876	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	36	Acre160:	SW
Acre40:	NW	Acre10:	NW
Utmx:	416084	Utmy:	3742386.1
Welltype:	NON-EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	IRRIGATION
Wateruse2:	Not Reported	Wateruse3:	Not Reported

Approved:	Not Reported	Installed:	03/03/1972 00:00:00
Driller:	0	Welldepth:	380
Waterlevel:	105	Casingtype:	STEEL - PERFORATED OR SLOTTED CASING
Casingdeep:	380	Casingwide:	16
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	225	Testrate:	0
Drawdown:	0	Drilllog:	Not Reported
Lastname:	CAREFREE WTR CO INC,	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 7724		
City:	PHOENIX	State:	AZ
Zipcode:	85011	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported AZ

B7
SSW
1/4 - 1/2 Mile
Lower

FED USGS **334914111543301**

BASIC WELL DATA

Site Type:	Single well, other than collector or Ranney type		
Year Constructed:	1972	County:	Maricopa
Altitude:	2470.00 ft.	State:	Arizona
Well Depth:	*380.00 ft.*	*Topographic Setting:*	*Undulating*
Depth to Water Table:	Not Reported	Prim. Use of Site:	Withdrawal of water
Date Measured:	Not Reported	Prim. Use of Water:	Public supply

---

C8
East
1/4 - 1/2 Mile
Higher

AZ WELLS **AZWR604781**

Registryid:	604781	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	36	Acre160:	NW
Acre40:	SE	Acre10:	NE
Utmx:	416689.4	Utmy:	3742784.5
Welltype:	NON-EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	MUNICIPAL
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	03/15/1982 00:00:00
Driller:	0	Welldepth:	1091
Waterlevel:	191	Casingtype:	STEEL - PERFORATED OR SLOTTED CASING
Casingdeep:	1091	Casingwide:	16
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	575	Testrate:	575
Drawdown:	0	Drilllog:	Not Reported

Lastname:	CAREFREE WATER CO,	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 702		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported
Registryid:	604781	Pump1984:	385.4
Pump1985:	213.82	Pump1986:	320.99
Pump1987:	452.9	Pump1988:	529.3
Pump1989:	492.2	Pump1990:	442.82
Pump1991:	500.01	Pump1992:	480.85
Pump1993:	490.14	Pump1994:	508.17
Pump1995:	458.88	Pump1996:	490.16
Pump1997:	529.01	Pump1998:	479.16
Pump1999:	264.9	Pumptotal:	7296.43
Driller:	0		
Company:	NO DRILLER SPECIFIED		
Address:	Not Reported		
	AZ		

D9
NNW
1/4 - 1/2 Mile
Lower

AZ WELLS **AZWR801084**

Registryid:	801084	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SE
Acre40:	SE	Acre10:	SE
Utmx:	415887.8	Utmy:	3743393.8
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	01/30/1962 00:00:00
Driller:	0	Welldepth:	265
Waterlevel:	265	Casingtype:	OTHER - BLACK STEEL - IRON - SEAMLESS
Casingdeep:	225	Casingwide:	6
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	34	Testrate:	34
Drawdown:	0	Drillog:	Not Reported
Lastname:	GENTLEMAN COLONEL,A W	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 1023		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported
Driller:	0		
Company:	NO DRILLER SPECIFIED		
Address:	Not Reported		
	AZ		

Map ID *Direction* Distance Elevation	Database	EDR ID Number
C10 **East** **1/4 - 1/2 Mile** **Higher**	**FED USGS**	**334926111535801**

BASIC WELL DATA

Site Type:	Single well, other than collector or Ranney type		
Year Constructed:	1961	County:	Maricopa
Altitude:	2520.00 ft.	State:	Arizona
Well Depth:	1091.00 ft.	Topographic Setting:	Not Reported
Depth to Water Table:	130.00 ft.	Prim. Use of Site:	Withdrawal of water
Date Measured:	10011961	Prim. Use of Water:	Public supply

D11 **NW** **1/4 - 1/2 Mile** **Lower**	**AZ WELLS**	**AZWR556858**

Registryid:	556858	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	*6*	*Northsouth:*	*N*
Range:	4	Eastwest:	E
Section:	26	Acre160:	SE
Acre40:	SE	Acre10:	SW
Utmx:	415687.8	Utmy:	3743394.7
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	03/03/1997 00:00:00
Driller:	127	Welldepth:	300
Waterlevel:	180	Casingtype:	PLASTIC OR PVC
Casingdeep:	300	Casingwide:	8
Pumptype:	*SUBMERSIBLE*	*Pumppower:*	*ELECTRIC MOTOR 1 - 5 HP*
Pumprate:	12	Testrate:	0
Drawdown:	0	Drilllog:	X
Lastname:	PAYNE, THOMAS,W	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 9878		
City:	ASPEN	State:	CO
Zipcode:	81611	Cancelled:	Not Reported

Driller:	127
Company:	SPUR CROSS DEVELOPMENT, INC.
Address:	38219 N. 3RD AVENUE DESERT HILLS, AZ 85027

D12 **NNW** **1/4 - 1/2 Mile** **Lower**	**AZ WELLS**	**AZWR803769**

Registryid:	803769	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SE
Acre40:	SE	Acre10:	Not Reported
Utmx:	415788.6	Utmy:	3743494.4
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	Not Reported
Driller:	0	Welldepth:	0
Waterlevel:	0	Casingtype:	STEEL - PERFORATED OR SLOTTED CASING
Casingdeep:	0	Casingwide:	0
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drilllog:	Not Reported
Lastname:	PETERS, BERNICE,A	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 1816		
City:	CAVE CREEK	State:	AZ
Zipcode:	85331	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported AZ

D13
NNW
1/4 - 1/2 Mile
Lower

AZ WELLS **AZWR803770**

Registryid:	803770	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SE
Acre40:	SE	Acre10:	Not Reported
Utmx:	415788.6	Utmy:	3743494.4
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	Not Reported
Driller:	0	Welldepth:	0
Waterlevel:	0	Casingtype:	STEEL - PERFORATED OR SLOTTED CASING
Casingdeep:	0	Casingwide:	0
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drilllog:	Not Reported

Lastname:	PETERS, BERNICE,A	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 1816		
City:	CAVE CREEK	State:	AZ
Zipcode:	85331	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported AZ

E14
NW
1/2 - 1 Mile
Lower

AZ WELLS **AZWR514904**

Registryid:	514904	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SE
Acre40:	SW	Acre10:	SE
Utmx:	415487.8	Utmy:	3743395.6
Welltype:	DOMESTIC STOCK EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	07/25/1986 00:00:00
Driller:	127	Welldepth:	300
Waterlevel:	70	Casingtype:	PLASTIC OR PVC
Casingdeep:	300	Casingwide:	8
Pumptype:	SUBMERSIBLE	Pumppower:	ELECTRIC MOTOR 1 - 5 HP
Pumprate:	27	Testrate:	30
Drawdown:	0	Drilllog:	X
Lastname:	THREADGILL, SELMAN,	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 2303		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported

Driller:	127
Company:	SPUR CROSS DEVELOPMENT, INC.
Address:	38219 N. 3RD AVENUE DESERT HILLS, AZ 85027

E15
NW
1/2 - 1 Mile
Lower

AZ WELLS **AZWR800671**

Registryid:	800671	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SE
Acre40:	SW	Acre10:	SE
Utmx:	415487.8	Utmy:	3743395.6
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	STOCK	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	Not Reported
Driller:	0	Welldepth:	0
Waterlevel:	0	Casingtype:	Not Reported
Casingdeep:	0	Casingwide:	0
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drilllog:	Not Reported
Lastname:	COMICK, MICHAEL,E	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 2793		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported
	AZ

F16
NNW
1/2 - 1 Mile
Lower

AZ WELLS **AZWR512174**

Registryid:	512174	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SE
Acre40:	SE	Acre10:	NW
Utmx:	415689.5	Utmy:	3743594.9
Welltype:	DOMESTIC STOCK EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	08/27/1985 00:00:00
Driller:	126	Welldepth:	300
Waterlevel:	200	Casingtype:	PLASTIC OR PVC
Casingdeep:	300	Casingwide:	8
Pumptype:	SUBMERSIBLE	Pumppower:	ELECTRIC MOTOR 1 - 5 HP
Pumprate:	33	Testrate:	40
Drawdown:	0	Drilllog:	X

Lastname:	TEMPO WEST INC,	Firstname:	Not Reported
Company:	Not Reported		
Address:	7895 E ACOMA DR #110		
City:	SCOTTSDALE	State:	AZ
Zipcode:	85260	Cancelled:	Not Reported

Driller:	126
Company:	SOIL SAMPLING SERVICE, INC.
Address:	P.O. BOX 710 PUYALLUP, WA 98371

F17
NNW
1/2 - 1 Mile
Lower

AZ WELLS **AZWR572237**

Registryid:	572237	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SE
Acre40:	SE	Acre10:	NW
Utmx:	415689.5	Utmy:	3743594.9
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	04/02/1999 00:00:00	Installed:	Not Reported
Driller:	141	Welldepth:	0
Waterlevel:	0	Casingtype:	Not Reported
Casingdeep:	0	Casingwide:	0
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drillog:	Not Reported
Lastname:	JONES	Firstname:	ROBERT W
Company:	Not Reported		
Address:	14002 N 49TH AVE #1062		
City:	GLENDALE	State:	AZ
Zipcode:	85306	Cancelled:	Y

Driller:	141
Company:	UNIVERSAL DRILLING, INC.
Address:	P.O. BOX 1027 WICKENBURG, AZ 85358

E18
NW
1/2 - 1 Mile
Lower

AZ WELLS **AZWR628046**

Registryid:	628046	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SE
Acre40:	SW	Acre10:	NE
Utmx:	415489.4	Utmy:	3743595.9
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	01/01/1973 00:00:00
Driller:	0	Welldepth:	0
Waterlevel:	0	Casingtype:	Not Reported
Casingdeep:	0	Casingwide:	0
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drillog:	Not Reported
Lastname:	DESZENDEFFY,R	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 556		
City:	LINCOLN PARK	State:	NJ
Zipcode:	07035	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported
	AZ

E19
NW
1/2 - 1 Mile
Lower

AZ WELLS **AZWR508721**

Registryid:	508721	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SE
Acre40:	SW	Acre10:	NE
Utmx:	415489.4	Utmy:	3743595.9
Welltype:	DOMESTIC STOCK EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	02/21/1985 00:00:00
Driller:	127	Welldepth:	290
Waterlevel:	200	Casingtype:	PLASTIC OR PVC
Casingdeep:	280	Casingwide:	8
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drillog:	X

Lastname:	BOHANNAN JR,B	Firstname:	Not Reported
Company:	Not Reported		
Address:	7000 E BERNEIL DR		
City:	SCOTTSDALE	State:	AZ
Zipcode:	85253	Cancelled:	Not Reported

Driller:	127
Company:	SPUR CROSS DEVELOPMENT, INC.
Address:	38219 N. 3RD AVENUE DESERT HILLS, AZ 85027

F20
NW
1/2 - 1 Mile
Lower

AZ WELLS **AZWR602366**

Registryid:	602366	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SE
Acre40:	Not Reported	Acre10:	Not Reported
Utmx:	*415590.2*	*Utmy:*	*3743695.5*
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	01/01/1972 00:00:00
Driller:	0	Welldepth:	650
Waterlevel:	0	Casingtype:	Not Reported
Casingdeep:	0	Casingwide:	0
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	30	Testrate:	30
Drawdown:	0	Drillog:	Not Reported
Lastname:	GALLOWAY,H R	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 2383		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported AZ

F21
NW
1/2 - 1 Mile
Lower

AZ WELLS **AZWR648169**

Registryid:	648169	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SE
Acre40:	Not Reported	Acre10:	Not Reported
Utmx:	415590.2	Utmy:	3743695.5
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	01/01/1957 00:00:00
Driller:	0	Welldepth:	250
Waterlevel:	225	Casingtype:	OTHER - BLACK STEEL - IRON - SEAMLESS
Casingdeep:	0	Casingwide:	4
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	1	Testrate:	1
Drawdown:	0	Drilllog:	Not Reported
Lastname:	MC CLLWAIN,R	Firstname:	Not Reported
Company:	Not Reported		
Address:	BOX 2002		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported
	AZ

F22
NW
1/2 - 1 Mile
Lower

AZ WELLS **AZWR806754**

Registryid:	806754	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SE
Acre40:	Not Reported	Acre10:	Not Reported
Utmx:	415590.2	Utmy:	3743695.5
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	12/31/1979 00:00:00
Driller:	0	Welldepth:	0
Waterlevel:	0	Casingtype:	Not Reported
Casingdeep:	0	Casingwide:	0
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drilllog:	Not Reported

Lastname:	NICKOLSON, WILLIAM,J	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 5335		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported AZ

E23
WNW
1/2 - 1 Mile
Lower

AZ WELLS **AZWR604779**

Registryid:	604779	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SE
Acre40:	SW	Acre10:	SW
Utmx:	415287.7	Utmy:	3743396.5
Welltype:	NON-EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	MUNICIPAL
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	01/01/1959 00:00:00
Driller:	0	Welldepth:	485
Waterlevel:	82	Casingtype:	STEEL - PERFORATED OR SLOTTED CASING
Casingdeep:	485	Casingwide:	16
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	140	Testrate:	140
Drawdown:	0	Drilllog:	Not Reported
Lastname:	CAREFREE WATER CO,	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 702		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported

Registryid:	604779	Pump1984:	159.1
Pump1985:	145.11	Pump1986:	153.06
Pump1987:	86.5	Pump1988:	53.76
Pump1989:	122.75	Pump1990:	134.77
Pump1991:	137.78	Pump1992:	121.36
Pump1993:	124.99	Pump1994:	117.27
Pump1995:	89.87	Pump1996:	83.75
Pump1997:	69.26	Pump1998:	79.56
Pump1999:	45.09	Pumptotal:	1792.16

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported AZ

Map ID Direction Distance Elevation	Database	EDR ID Number
G24 **ESE** ***1/2 - 1 Mile*** **Higher**	**FED USGS**	**334919111534301**

BASIC WELL DATA

Site Type:	Single well, other than collector or Ranney type		
Year Constructed:	1970	County:	Maricopa
Altitude:	2550.00 ft.	State:	Arizona
Well Depth:	710.00 ft.	Topographic Setting:	Not Reported
Depth to Water Table:	195.00 ft.	Prim. Use of Site:	Withdrawal of water
Date Measured:	05011970	Prim. Use of Water:	Domestic

H25 **WNW** **1/2 - 1 Mile** **Lower**	**FED USGS**	**334943111545901**

BASIC WELL DATA

Site Type:	Single well, other than collector or Ranney type		
Year Constructed:	1959	County:	Maricopa
Altitude:	2375.00 ft.	State:	Arizona
Well Depth:	485.00 ft.	Topographic Setting:	Not Reported
Depth to Water Table:	37.00 ft.	Prim. Use of Site:	Withdrawal of water
Date Measured:	02011959	Prim. Use of Water:	Public supply

I26 **NW** **1/2 - 1 Mile** **Lower**	**AZ WELLS**	**AZWR632123**

Registryid:	632123	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SE
Acre40:	SW	Acre10:	NW
Utmx:	415289.4	Utmy:	3743596.8
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	08/15/1978 00:00:00
Driller:	0	Welldepth:	250
Waterlevel:	96	Casingtype:	STEEL - PERFORATED OR SLOTTED CASING
Casingdeep:	250	Casingwide:	6
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	20	Testrate:	20
Drawdown:	0	Drilllog:	Not Reported
Lastname:	STEIGERWALD,J	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 1026		
City:	CAREFREE	State:	AZ
Zipcode:	85977	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported AZ

I27
NW
1/2 - 1 Mile
Lower

AZ WELLS **AZWR602835**

Registryid:	602835	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SE
Acre40:	SW	Acre10:	NW
Utmx:	415289.4	Utmy:	3743596.8
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	IRRIGATION
Wateruse2:	DOMESTIC	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	01/30/1975 00:00:00
Driller:	0	Welldepth:	250
Waterlevel:	100	Casingtype:	STEEL - PERFORATED OR SLOTTED CASING
Casingdeep:	250	Casingwide:	8
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	35	Testrate:	35
Drawdown:	0	Drilllog:	Not Reported
Lastname:	BANE,J	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 1488		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported AZ

G28
East
1/2 - 1 Mile
Higher

AZ WELLS **AZWR605050**

Registryid:	605050	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	36	Acre160:	NE
Acre40:	SE	Acre10:	NW
Utmx:	417293.3	Utmy:	3742780.2
Welltype:	NON-EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	IRRIGATION
Wateruse2:	Not Reported	Wateruse3:	Not Reported

Approved:	Not Reported	Installed:	05/27/1970 00:00:00
Driller:	0	Welldepth:	710
Waterlevel:	210	Casingtype:	STEEL - PERFORATED OR SLOTTED CASING
Casingdeep:	20	Casingwide:	20
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	750	Testrate:	750
Drawdown:	0	Drillog:	Not Reported
Lastname:	Not Reported	Firstname:	Not Reported
Company:	DESERT FOREST GOLF CLUB		
Address:	PO BOX 1399		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported

Registryid:	605050	Pump1984:	367.7
Pump1985:	400.68	Pump1986:	425.94
Pump1987:	436.39	Pump1988:	298.75
Pump1989:	303.49	Pump1990:	281.72
Pump1991:	304.47	Pump1992:	275.58
Pump1993:	308.72	Pump1994:	326.99
Pump1995:	315.2	Pump1996:	299.69
Pump1997:	353.02	Pump1998:	350.74
Pump1999:	357.6	Pumptotal:	5433.01

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported
	AZ

H29
WNW
1/2 - 1 Mile
Lower

AZ WELLS **AZWR602820**

Registryid:	602820	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SW
Acre40:	SE	Acre10:	SE
Utmx:	415087.6	Utmy:	3743397.4
Welltype:	NON-EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	10/17/1979 00:00:00
Driller:	0	Welldepth:	265
Waterlevel:	40	Casingtype:	PLASTIC OR PVC
Casingdeep:	265	Casingwide:	5
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	45	Testrate:	45
Drawdown:	0	Drillog:	Not Reported
Lastname:	PARKE,R E	Firstname:	Not Reported
Company:	Not Reported		
Address:	831 E MISSOURI		
City:	PHOENIX	State:	AZ
Zipcode:	85014	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported
	AZ

H30
WNW
1/2 - 1 Mile
Lower

AZ WELLS AZWR803530

Registryid:	803530	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SW
Acre40:	SE	Acre10:	SE
Utmx:	415087.6	Utmy:	3743397.4
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	01/01/1960 00:00:00
Driller:	0	Welldepth:	104
Waterlevel:	35	Casingtype:	OTHER - BLACK STEEL - IRON - SEAMLESS
Casingdeep:	80	Casingwide:	5
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	8	Testrate:	0
Drawdown:	0	Drilllog:	Not Reported
Lastname:	DUBAS, WALTER,J	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 914		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported
	AZ

G31
ESE
1/2 - 1 Mile
Higher

AZ WELLS AZWR572380

Registryid:	572380	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	36	Acre160:	NE
Acre40:	SE	Acre10:	SW
Utmx:	417291.1	Utmy:	3742579.3
Welltype:	NON-EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	IRRIGATION
Wateruse2:	Not Reported	Wateruse3:	Not Reported

Approved:	Not Reported	Installed:	07/19/1999 00:00:00
Driller:	215	Welldepth:	1015
Waterlevel:	364	Casingtype:	STEEL - PERFORATED OR SLOTTED CASING
Casingdeep:	995	Casingwide:	16
Pumptype:	TURBINE	Pumppower:	ELECTRIC MOTOR > 100 HP
Pumprate:	1000	Testrate:	800
Drawdown:	0	Drilllog:	X
Lastname:	Not Reported	Firstname:	Not Reported
Company:	DESERT FOREST GOLF CLUB		
Address:	PO BOX 1399		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported

Registryid:	572380	Pump1984:	0
Pump1985:	0	Pump1986:	0
Pump1987:	0	Pump1988:	0
Pump1989:	0	Pump1990:	0
Pump1991:	0	Pump1992:	0
Pump1993:	0	Pump1994:	0
Pump1995:	0	Pump1996:	0
Pump1997:	0	Pump1998:	0
Pump1999:	5.98	Pumptotal:	326.82

Driller:	215
Company:	WEBER GROUP, L.C.
Address:	16825 S. WEBER DRIVE CHANDLER, AZ 85226

32
NNW
1/2 - 1 Mile
Lower

AZ WELLS **AZWR638748**

Registryid:	638748	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SE
Acre40:	NE	Acre10:	NW
Utmx:	415692.8	Utmy:	3743995.5
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	IRRIGATION	Wateruse3:	STOCK
Approved:	Not Reported	Installed:	01/01/1972 00:00:00
Driller:	0	Welldepth:	0
Waterlevel:	0	Casingtype:	STEEL - PERFORATED OR SLOTTED CASING
Casingdeep:	0	Casingwide:	6
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drilllog:	Not Reported
Lastname:	CLEM II,S E	Firstname:	Not Reported
Company:	Not Reported		
Address:	7838 HORIZON DR		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported
	AZ

J33
NW
1/2 - 1 Mile
Lower

AZ WELLS **AZWR629982**

Registryid:	629982	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SE
Acre40:	NW	Acre10:	NW
Utmx:	415292.8	Utmy:	3743997.3
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	01/01/1974 00:00:00
Driller:	0	Welldepth:	300
Waterlevel:	0	Casingtype:	STEEL - PERFORATED OR SLOTTED CASING
Casingdeep:	300	Casingwide:	6
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drillog:	Not Reported
Lastname:	MALFETTI, JAMES,L	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 5327		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported
	AZ

J34
NW
1/2 - 1 Mile
Lower

FED USGS **335004111545901**

BASIC WELL DATA

Site Type:	Single well, other than collector or Ranney type		
Year Constructed:	1975	County:	Maricopa
Altitude:	2400.00 ft.	State:	Arizona
Well Depth:	305.00 ft.	Topographic Setting:	Hilltop
Depth to Water Table:	Not Reported	Prim. Use of Site:	Unused
Date Measured:	Not Reported	Prim. Use of Water:	Not Reported

Map ID Direction Distance Elevation	Database	EDR ID Number
K35 **East** **1/2 - 1 Mile** **Higher**	**FED USGS**	**334924111532401**

BASIC WELL DATA

Site Type:	Single well, other than collector or Ranney type		
Year Constructed:	1978	County:	Maricopa
Altitude:	2595.00 ft.	State:	Arizona
Well Depth:	1500.00 ft.	Topographic Setting:	Undulating
Depth to Water Table:	Not Reported	Prim. Use of Site:	Unused
Date Measured:	Not Reported	Prim. Use of Water:	Not Reported

---

36 **SSE** **1/2 - 1 Mile** **Higher**	**AZ WELLS**	**AZWR579440**

Registryid:	579440	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	5	Northsouth:	N
Range:	4	Eastwest:	E
Section:	1	Acre160:	NE
Acre40:	NW	Acre10:	NW
Utmx:	416882.4	Utmy:	3741577.1
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	02/27/2000 00:00:00
Driller:	562	Welldepth:	343
Waterlevel:	247	Casingtype:	STEEL - PERFORATED OR SLOTTED CASING
Casingdeep:	263	Casingwide:	6
Pumptype:	SUBMERSIBLE	Pumppower:	ELECTRIC MOTOR 1 - 5 HP
Pumprate:	15	Testrate:	27
Drawdown:	0	Drilllog:	X
Lastname:	DUNN	Firstname:	CHRIS
Company:	Not Reported		
Address:	PO BOX 1360		
City:	CORNVILLE	State:	AZ
Zipcode:	86325	Cancelled:	Not Reported

Driller:	562
Company:	K. P. VENTURES WELL DRILLING & PUMP SERVICE
Address:	P.O. BOX 2411 COTTONWOOD, AZ 86326

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37 **ESE** **1/2 - 1 Mile** **Higher**	**AZ WELLS**	**AZWR501421**

Registryid:	501421	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	36	Acre160:	SE
Acre40:	NE	Acre10:	SE
Utmx:	417488.1	Utmy:	3742176.2
Welltype:	REPLACEMENT WELL IN NEW LOCATION	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	INDUSTRIAL
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	Not Reported
Driller:	0	Welldepth:	0
Waterlevel:	0	Casingtype:	Not Reported
Casingdeep:	0	Casingwide:	0
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drillog:	Not Reported
Lastname:	BOULDERS CAREFREE,	Firstname:	Not Reported
Company:	Not Reported		
Address:	6300 YUCCA ROAD		
City:	PARADISE VALLEY	State:	AZ
Zipcode:	85253	Cancelled:	Y

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported
	AZ

L38
NW
1/2 - 1 Mile
Lower

AZ WELLS **AZWR638233**

Registryid:	638233	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SW
Acre40:	NE	Acre10:	SW
Utmx:	414891.1	Utmy:	3743798.9
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	Not Reported
Driller:	0	Welldepth:	0
Waterlevel:	0	Casingtype:	Not Reported
Casingdeep:	0	Casingwide:	0
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drillog:	Not Reported

Lastname:	WOOD,J M	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 233		
City:	CAVE CREEK	State:	AZ
Zipcode:	85331	Cancelled:	Not Reported
Driller:	0		
Company:	NO DRILLER SPECIFIED		
Address:	Not Reported AZ		

K39
East
1/2 - 1 Mile
Higher

AZ WELLS **AZWR606413**

Registryid:	606413	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	5	Eastwest:	E
Section:	31	Acre160:	NW
Acre40:	SW	Acre10:	SW
Utmx:	417693.5	Utmy:	3742575.3
Welltype:	SERVICE	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	12/21/1972 00:00:00
Driller:	0	Welldepth:	1500
Waterlevel:	259	Casingtype:	STEEL - PERFORATED OR SLOTTED CASING
Casingdeep:	1500	Casingwide:	12
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	800	Testrate:	800
Drawdown:	0	Drilllog:	Not Reported
Lastname:	SCOTTSDALE, CITY OF,	Firstname:	Not Reported
Company:	Not Reported		
Address:	9388 E SAN SALVADOR		
City:	SCOTTSDALE	State:	AZ
Zipcode:	85258	Cancelled:	Not Reported

Registryid:	606413	Pump1984:	0
Pump1985:	6	Pump1986:	556
Pump1987:	555.97	Pump1988:	241.48
Pump1989:	681.2	Pump1990:	635.2
Pump1991:	690.34	Pump1992:	501.82
Pump1993:	128.76	Pump1994:	155
Pump1995:	0	Pump1996:	0
Pump1997:	349.68	Pump1998:	350.16
Pump1999:	468.22	Pumptotal:	5887.94

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported AZ

Map ID Direction Distance Elevation	Database	EDR ID Number
K40 **East** **1/2 - 1 Mile** **Higher**	**AZ WELLS**	**AZWR511364**

Registryid:	511364	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	5	Eastwest:	E
Section:	31	Acre160:	NW
Acre40:	SW	Acre10:	SW
Utmx:	417693.5	Utmy:	3742575.3
Welltype:	NON-SERVICE	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	RECREATION
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	12/21/1978 00:00:00
Driller:	0	Welldepth:	1500
Waterlevel:	259	Casingtype:	Not Reported
Casingdeep:	1500	Casingwide:	12
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drilllog:	N
Lastname:	SONORA DEVL CO # 274,	Firstname:	Not Reported
Company:	Not Reported		
Address:	7373 N SCOTTSDALE RD		
City:	SCOTTSDALE	State:	AZ
Zipcode:	85253	Cancelled:	Y

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported AZ

L41 **WNW** **1/2 - 1 Mile** **Lower**	**AZ WELLS**	**AZWR640595**

Registryid:	640595	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SW
Acre40:	Not Reported	Acre10:	Not Reported
Utmx:	414790.1	Utmy:	3743699.3
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	NONE
Wateruse2:	Not Reported	Wateruse3:	Not Reported

Approved:	Not Reported	Installed:	Not Reported
Driller:	0	Welldepth:	0
Waterlevel:	0	Casingtype:	Not Reported
Casingdeep:	0	Casingwide:	0
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drillog:	Not Reported
Lastname:	DIEDRICH, THAYES & E,	Firstname:	Not Reported
Company:	Not Reported		
Address:	1109 WESTWOOD DR		
City:	PLANO	State:	TX
Zipcode:	75075	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported AZ

L42
WNW
1/2 - 1 Mile
Lower

AZ WELLS **AZWR803838**

Registryid:	803838	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	*Northsouth:*	N
Range:	4	Eastwest:	E
Section:	26	Acre160:	SW
Acre40:	Not Reported	Acre10:	Not Reported
Utmx:	414790.1	*Utmy:*	*3743699.3*
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	*10/01/1972 00:00:00*
Driller:	0	Welldepth:	0
Waterlevel:	0	Casingtype:	Not Reported
Casingdeep:	0	Casingwide:	0
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drillog:	Not Reported
Lastname:	WOOD, JEANN,M	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 825		
City:	CAVE CREEK	State:	AZ
Zipcode:	85331	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported AZ

GEOCHECK®- PHYSICAL SETTING SOURCE MAP FINDINGS
RADON

AREA RADON INFORMATION

Federal EPA Radon Zone for MARICOPA County: 2

Note: Zone 1 indoor average level > 4 pCi/L.
: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
: Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for MARICOPA COUNTY, AZ

Number of sites tested: 695

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	1.697 pCi/L	93%	7%	0%
Living Area - 2nd Floor	3.640 pCi/L	80%	20%	0%
Basement	2.242 pCi/L	79%	21%	0%

PHYSICAL SETTING SOURCE RECORDS SEARCHED

HYDROLOGIC INFORMATION

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 1999 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002 from the U.S. Fish and Wildlife Service.

HYDROGEOLOGIC INFORMATION

AQUIFLOW[R] Information System
Source: EDR proprietary database of groundwater flow information
EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit
Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, *Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital* representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database
The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the national Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

ADDITIONAL ENVIRONMENTAL RECORD SOURCES

FEDERAL WATER WELLS

PWS: Public Water Systems
Source: EPA/Office of Drinking Water
Telephone: 202-260-2805
Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data
Source: EPA/Office of Drinking Water
Telephone: 202-260-2805
Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: In November 1971 the United States Geological Survey (USGS) implemented a national water resource information tracking system. This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on more than 900,000 wells, springs, and other sources of groundwater.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

STATE RECORDS

Arizona Well Registration Database
Source: Department of Water Resources
Telephone: 602-771-1586
Contains information provided to ADWR's Operations Division by well drillers and/or owners.

RADON

Area Radon Information
Source: USGS
Telephone: 303-202-4210
The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones
Source: EPA
Telephone: 202-564-9370
Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor *radon levels.*

OTHER

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

DRAFT

LITERATURE REVIEW FOR THE CAREFREE DRAINAGE MASTER PLAN CAREFREE, MARICOPA COUNTY, ARIZONA

Prepared by Thomas E. Jones
Submitted by Lourdes Aguila
Archaeological Consulting Services, Ltd.
ACS Project No. 02-087-01
January 9, 2003

As part of the Carefree Drainage Master Plan, the Flood Control District of Maricopa County plans to install eight drainage crossings and two drainage corridors in the Carefree-Cave Creek area (Figure 1). Implementation of the proposed improvements will involve ground disturbance within a 100-ft-radius of each drainage crossing and along a 50-ft-wide swath on either side of the wash banks at each of the two drainage corridors.

At the request of CH2MHill, Inc., Archaeological Consulting Services, Ltd. (ACS) conducted a literature review of the project area to determine whether any previously recorded cultural resources are located within the project's area of potential effect. Site and project files were checked at the State Historic Preservation Office (SHPO), the Arizona State Museum (ASM), the Arizona Department of Transportation (ADOT), and the AZSite Cultural Resources Database. Archives were examined for historical resources at the Arizona State Archives, General Land Office (GLO) records at the Bureau of Land Management-Arizona State Office, and the Cave Creek Museum. The literature review revealed the proposed crossing/corridor locations have not been examined for cultural resources. Eight archaeological projects have been conducted nearby; at least two archaeological sites and four historical properties are located within 0.25 mi of the review area.

Review Area

The review area consisted of 10 locations—eight drainage crossings and two drainage corridors (Table 1)—situated in portions of Townships 5–6 North and Ranges 4–5 East (Figure 1). The review area included a 0.25-mi buffer around each of the proposed locations.

Table 1. Review Area Summary.

Location Name/No.	Legal Description	Description	Area Previously Surveyed?	Known Cultural Resources*
6	T5N/R4E/§4	Drainage crossing	No	Yes
JEF44	T6N/R4E/§25	Drainage crossing	No	No
JEF52	T6N/R4E/§25	Drainage crossing	No	Yes
JEF35	T6N/R4E/§26	Drainage crossing	No	Yes
190/JEF53	T6N/R4E/§26	Drainage crossing	No	Yes
213	T6N/R4E/§35	Drainage crossing	No	Yes
JEF32	T6N/R4E/§36	Drainage crossing	No	No
Galloway Wash	T6N/R4E/§26, 35, 36	Drainage corridor	No	Yes
Stagecoach Pass Wash Tributary	T6N/R5E/§31	Drainage corridor	No	No

* Within 0.25 mi of review area

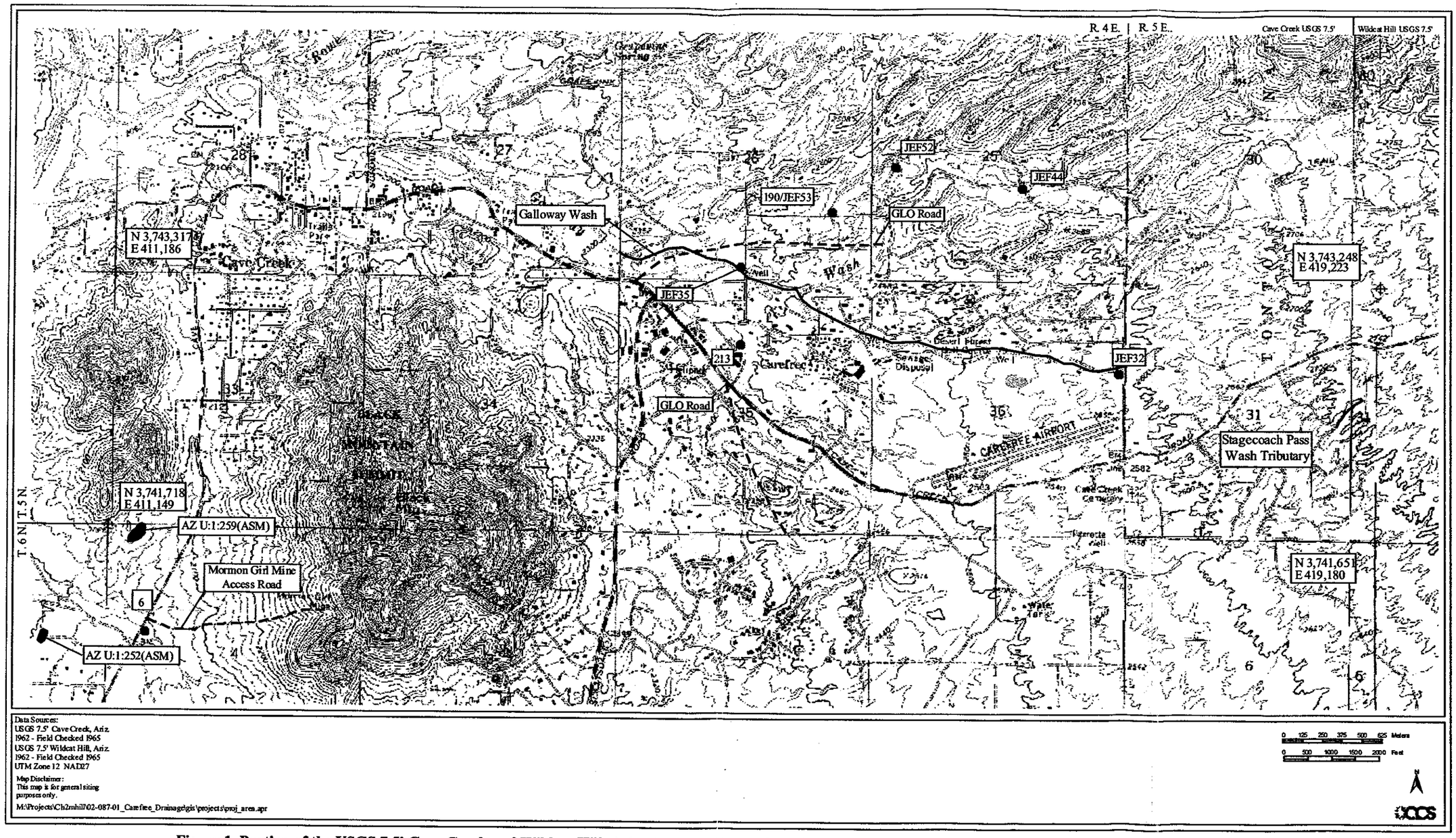

Figure 1. Portion of the USGS 7.5' Cave Creek and Wildcat Hill, Ariz., topographic quadrangles showing the location of the project area and known cultural resources.

Culture History

The review area is part of the Cave Creek desert foothills; the Carefree area is the divide between the Salt and Verde River watersheds. This geographic area is roughly bounded by Pine Mountain, Perry Mesa, and Black Mesa in the north, the Agua Fria River and McDowell Mountains in the west, the Salt River from its confluence with the Verde River to Apache Lake in the south, and by the Mazatzal Mountain range in the east (Hoffman 1996). Although prehistoric sites in the Cave Creek area have yielded Hohokam, Sinagua, and Salado cultural traits (Spoerl and Gumerman 1984; Lindauer 1990), it has been generally accepted that the Lower Verde area lies within the northern periphery of the Hohokam settlement system (Doyel and Elson 1985; Crown 1991; Redman and Minnis 1992). However, recent archaeological investigations at the Bartlett Reservoir indicate that during the Preclassic period, the Lower Verde may have represented a distinct political unit (Hoffman 1996). Because of the limited archaeological investigations in the Lower Verde area, a cultural sequence has yet to be developed. Thus, the Phoenix Basin chronological sequence is used in this summary (Table 2).

Paleoindian Period

The Paleoindian period (10,000–7,500 B.C.) represents the earliest known occupation of North America. Paleoindian lifeways were based on small, nomadic bands that followed megafauna and gathered wild plants. Sites from this period are poorly represented in the Lower Verde area. No Paleoindian sites have been reported near the current review area, although several isolated projectile point fragments of possible Paleoindian affiliation have been identified in the Middle Verde (Hoffman 1996). A Clovis point was documented at AZ T:4:107(ASM), a prehistoric lithic scatter located on Biscuit Flat near Deadman Wash, southwest of Cave Creek (Crownover 1994).

Archaic Period

The Archaic period (8,000 B.C.–A.D. 1), which followed the extinction of megafauna, was characterized by the adaptive strategies of hunter-gatherers to other food sources. The Archaic period has been divided into Early, Middle, and Late; however, Archaic chronological sequences in central Arizona are problematic, as both eastern and western expressions of Archaic traits appear to be present in the Lower Verde (Hoffman 1996). By the end of the Archaic period, populations aggregated into semi-permanent villages and began cultivating maize and harvesting other wild plant resources.

Little evidence of Archaic occupation has been found in the Lower Verde area. Doyel and Elson (1985) hypothesized that sites along the New River might include Archaic components; however, subsequent excavation determined the sites dated to the ceramic period. Archaic period sites have been identified along the Agua Fria River, Skunk Creek, and Cave Creek drainages and near the McDowell Mountains (Lindauer 1990; Redman and Minnis 1992; Wright 2002). In addition, several San Pedro-type projectile points have been found in Paradise Valley and on the slope of McDowell Mountain (RECON 1987). Middle and Late Archaic deposits were uncovered in Paradise Valley (Hackbarth 1998; Phillips et al. 2001). No Archaic sites have been identified near the current review area.

Formative Period

The Early Formative period (A.D.1–700) is associated with the spread of agriculture and pottery manufacture, and the establishment of permanent small communities in upland and riverine locales. A transitional Early Agricultural period has been proposed to bridge the Archaic and Formative traditions (Bruce Phillips, personal communication 2002). However, hunting and the gathering of wild plant resources appear to have remained an integral part of the Early Formative diet.

Recent investigations have augmented the Early Formative record of settlement in the Lower Verde area. Test excavations and reinvestigation of AZ U:5:3(ASU), the Herberger site, identified artifacts from the Vahki to the Sweetwater phase (RECON 1987). Sites near the Salt–Verde River confluence indicate continuous habitation from the late Pioneer through the Classic period (Neily and Kisselburg 1991). AZ

U:1:23(ASU), located at the Cave Creek–Cottonwood Wash confluence, contains Snaketown Incised ceramics, suggesting a late Pioneer period occupation.

Table 2. Some Recent Versions of the Phoenix Basin Cultural Chronology.

Year	Traditional Periods	Alternate Periods	Doyel (1991b)	Dean (1991)	Haury (1976)
1950					
1900					
1850					
1800					
1750		Historic	Blackwater		
1700					
1650					
1600					
1550	Historic	Protohistoric			
1525			Bachi		
1450					
1400			Polvorón		
1350					
1300			Civano	Civano	Civano
1250					
1200			Soho	Soho	
1150					
1100	Classic	Classic	Santan		Soho
1050					
1000				Sacaton	
950	Sedentary		Sacaton		
900				Santa Cruz	Sacaton
850			Santa Cruz		
800			Gila Butte	Gila Butte	
750					
700		Late Formative	Snaketown	Snaketown	Santa Cruz
650					
600			Sweetwater	Sweetwater	
550	Colonial		Estrella	Estrella	Gila Butte
500					
450					
400					
350			Vahki	Vahki	Snaketown
300					Sweetwater
250					
200					
150					
100		Early			
50		Formative	Red Mountain		Estrella
0					
50					
100					
150					
200					
250					
300	Pioneer	Late Archaic	Late Archaic	Red Mountain	Vahki

The Late Formative period (A.D. 700–1100) in the Phoenix Basin is characterized by the construction of complex irrigation systems, increased population growth, and the development of the Hohokam cultural tradition—characterized by the production of red-on-buff decorated ceramics, public architecture, and cremation burials. Village structure grew more formalized, with the establishment of central plazas surrounded by mounds, house clusters, and cemeteries (Gregory 1991; Haury 1976; Wilcox et al. 1981). At this time, the New River area appears to have been settled by Hohokam groups from the Phoenix Basin (e.g., Spoerl and Gumerman 1984). Various reasons have been suggested for this population movement, including reaction to overpopulation of the core areas; however, the cultural similarities and differences observed in sites of the periphery also may be explained by economic influences, such as trade and labor sharing (Hoffman 1996).

Late Formative sites have been documented along the New River, Agua Fria River, Skunk Creek, and Verde River (Hoffman 1996; Macnider and Effland 1989). By approximately A.D. 1000, various site types appear with regularity near the Cave Buttes and Black Mountain areas, including fortified hilltop sites, farmsteads, homesteads, fieldhouses, and agricultural/irrigation loci (Lindauer 1990; Macnider and Effland 1989; Redman and Minnis 1992).

Classic Period

In the Phoenix Basin, settlement patterns, site structure, architecture, and material culture changed in the Classic period (A.D. 1100–1450). By A.D. 1300, many Hohokam characteristics were altered significantly, while some disappeared altogether. More platform mound communities were constructed along the Lower Salt than the Middle Gila (Gregory 1987). Multi-village communities along irrigation systems became common. Large villages incorporated mounds, compounds, plazas, and house clusters. After A.D. 1300, contiguous room structures and multistoried great houses were built.

In the Lower Verde area, the Classic period is characterized by abandonment and resettlement. Sites along the New River and around Bartlett Lake were abandonment by A.D. 1300 (Doyel and Elson 1985; Hoffman 1996; Spoerl and Gumerman 1984). By late Sacaton period (A.D. 1000–1100), fortified sites were present throughout the Lower Verde area, including Cave Creek, suggesting conflict between populations in the core and northern periphery (Hoffman 1996; Spoerl and Gumerman). Classic period sites have been recorded along the Lower Agua Fria River, and at Calderwood Butte (Redman and Minnis 1992).

In the Cave Creek area, several Classic period sites have been identified, including AZ U:1:11, U:1:12, and U:1:19(ASU). By A.D. 1150, however, the focus of settlement appears to have shifted north, to the upper reaches of Cave Creek; sites in this area include small farmsteads, fieldhouses, and agricultural fields. Abandonment of the Cave Creek area may have occurred sometime in A.D.1400 (Lindauer 1990; Macnider and Effland 1989).

Protohistoric Period

Few Protohistoric period sites have been documented in the Cave Creek and the Lower Verde areas. However, the paucity of cultural resources from this period does not indicate the area was void of protohistoric populations. Macnider and Effland (1989) have noted the importance of establishing a chronological framework to determine the cultural relationships between Prehistoric and Protohistoric peoples.

Yavapai and Western Apache groups in the review area were highly mobile; their camps tend to be temporary and difficult to identify archaeologically. The Yavapai may have settled in central Arizona as early as the 1500s (Hoffman 1996; Lindauer 1990). The Western Apache are present in the area by 1800, but the time of their initial settlement is still debated (Spicer 1962). Other Piman-speaking groups also utilized the desert foothills of Cave Creek, building semi-permanent villages along riparian areas (Macnider and Effland 1989). AZ U:1:25(ASM), a rock shelter near the McDowell Mountains, had substantial evidence of Yavapai occupation (Wright 2002). AR-03-12-01-1379 and AR-03-12-01-1449,

rock shelter sites adjacent to the Bartlett Reservoir, contained pictographs and ceramic sherds suggesting Pai occupation (Hoffman 1996); however, no evidence has been found in the Cave Creek area.

Western Apache and Yavapai groups in central Arizona remained isolated from Anglo-European contact until the nineteenth century, with the purchase of the New Mexico territory in 1848 and subsequent survey of the international boundary. Trappers along the Gila River were among the first to encounter American Indian populations of the Salt River Basin and Lower Verde area (Spicer 1962).

Historic Period

In central Arizona, conflict between the Apache and American settlers escalated in 1863, with the discovery of gold in the Bradshaw Mountains, near Prescott. By the following year, discovery of the Vulture Mine southeast of the Bradshaws led speculators to the streams and foothills of the Lower Verde (Carlson 1996; Spicer 1962). In response to the conflict, the military established Fort Whipple in Prescott to protect the area's miners and other Anglo settlers, but despite a government policy of peaceful negotiations, soldiers and settlers embarked on hostile campaigns against the Apache. Retaliation by Apache-Yavapai coalitions throughout central Arizona led to the establishment of Fort McDowell in 1865. Fort McDowell was situated on the bank of the Lower Verde River, adjacent to an Apache trail that ran from the Verde River through Cave Creek and the Bradshaw Mountains. The construction of Fort McDowell was a significant factor in the subsequent settlement and development of Cave Creek and the Salt River Valley; additionally, Anglo settlers now could count on a defensive line of forts stretching throughout the Apache territory, from Prescott to present-day Silver City, New Mexico (Spicer 1962).

In 1870, an old trail between Fort McDowell and Fort Whipple was widened to facilitate a link between the military garrisons. This route, known as the Old Fort McDowell Road, extended northwest through the Cave Creek area, before turning west to the Agua Fria River, and thence north to Fort Whipple; by 1875, an alternate route, the Old New River Road, was built to diverge from the original road at the present site of Cave Creek, skirt the steep terrain of the New River Mountains, and rejoin the older road at the current site of New River (Carlson 1996).

By 1873, the Phoenix settlement, earlier chosen as the Maricopa County seat, was experiencing steady growth. William Hellings—an original settler of Phoenix and an influential miner in the future Cave Creek Mining District—constructed the first Phoenix to Cave Creek Road, which alignment closely followed that of the wash (Carlson 1996). This road was intended to establish a shorter route to Prescott, but although it continued to be used, a second road that extended straight north from Phoenix to New River and beyond, following the old Fort McDowell Road, soon bypassed it. This new route to Prescott was variously known as the Woolsey Trail, Black Canyon Road, or Black Canyon Highway.

The town and region of Cave Creek received its name from the steep bluff overlooking the creek north of the present town location. According to Carlson (1996), the bluff contained a large cave that was plotted on a military map drawn in 1866; this map also showed the Cave Creek drainage. The settlement grew around the Cave Creek Station, constructed in 1877 by Josiah Wood. This structure was a small, crude dwelling located on the bank of Cave Creek near a bubbling spring identified by Colonel Stoneman in 1870. In the 1880 census, Josiah Wood and his wife were listed as the only permanent residents of Cave Creek. Also in that year, Wood established the first Cave Creek post office under the name Overton. The post office was short lived, however, closing down in 1881. In 1890, another post office was opened in the same location. The new post office, called Cavecreek (one word) was in use until 1910 (Carlson 1996; Fireman 1963).

The hills and streams of the Cave Creek area attracted miners as early as 1870, but Apache raids impeded successful mining operations until 1873, when William Rowe staked a claim on Continental Mountain. His most successful claim—the Lion Mine on Gold Hill—sparked a flurry of activity in the Cave Creek region (Carlson 1996). Soon other claims were staked in Continental Mountain, Gold Hill, Black Mountain, Go John Mountain, and Lone Mountain. By 1877, the region was referred to as the Cave Creek Mining District, but official boundaries were never given for it (Fireman 1963). Gold and silver

mining were significant to the area's economy until the beginning of the twentieth century when the importance of the copper market was realized, since the area lacked the rich copper deposits found in other parts of the state (Garrison 1996). By 1910, most of the mines had been abandoned, but several notable mines, including the Mormon Girl Mine, remained open intermittently until at least 1942 (Garrison 1996; Lewis 1919). In addition to mining, the area's economic focus was on cattle ranching. Between 1880 and 1890, properties such as the Cartwright Ranch were established near the Cave Creek Station, but many were subsequently abandoned after the severe droughts of the 1890s.

In 1900, James Houck moved to Cave Creek, purchased the Cave Creek Station, and took over management of the post office. He also set up a stagecoach line between Cave Creek and Phoenix that completed three trips weekly. His largest enterprise, however, was his sheep shearing business, which encouraged the establishment of sheep herds across the Lower Verde and into Paradise Valley (Carlson 1996). For the next decade, sheepherders around Cave Creek drove their stock to Houck's isolated shearing camp; however, after 1908, the federal government's efforts to control overgrazing by issuing grazing allotments forced sheepherders from the Cave Creek area, thus effectively ending Houck's shearing business. James Houck died in 1921. In 1924, the original Cave Creek Station was abandoned with the rerouting of Cave Creek Road.

The residential population of Cave Creek remained small through the first half of the twentieth century. In the 1905–1906 Phoenix City and Maricopa County Directory, Cave Creek boasted 44 residents, but by 1914, after the decline in mining and ranching, the directory listed only 27 residents. However, residents had long recognized the area as a cool retreat from the valley's heat, and soon tourism became the dominant local industry. One of the better-known retreats was the Spur Cross Ranch, opened in 1927. Formerly working ranches became popular tourist destinations as "dude ranches" before shutting down in the mid-1950s (Carlson 1996; Redman and Minnis 1992).

With construction of the Bartlett and Horseshoe Dams in 1928–1935, the area's population increased significantly as workers moved their families to Cave Creek, the closest settlement to the construction sites. Although many of the families moved out after the construction was completed, the reservoirs created new jobs and business opportunities for the community. After World War II, Cave Creek Road was paved, telephones were installed, and people began buying property in the area. Cattle ranching picked up as well. By 1958, 400 people resided in Cave Creek (Carlson 1996). In 1958, the town of Carefree was formed with the acquisition of 2,000 acres for development. Carefree and Cave Creek became incorporated in 1984 and 1986, respectively, to avoid annexation by Scottsdale and Phoenix (Carlson 1996).

Results

Site and project files at SHPO, ASM, ADOT, and the AZSite Cultural Resources Database were checked to determine whether any archaeological work has taken place or cultural resources have been previously recorded within 0.25 mi of the current review area. The research revealed that none of the 10 locations have been examined for cultural resources. Eight projects have been conducted nearby (Table 3). Although the projects identified numerous sites, only two were located within the review area (Table 42).

AZ U:1:252 and U:1:259(ASM) were previously documented by ACS as prehistoric artifact scatters. The National Register eligibility of the sites could not be ascertained from the surface remains; testing was recommended to determine the presence and assess the condition of the subsurface deposits (DeMaagd and Aguila 1997:22). The two sites are located within 0.25 mi of Design Site No. 6 (Figure 1), but do not extend within the current project's area of potential effect.

In addition to the two prehistoric sites, eight historical properties have been identified in the review area (Table 5). Of these, four—the old alignment of the Phoenix to Cave Creek Road, the Mormon Girl Mine access road, the Verde River Road, and the Old Fort McDowell Road—may extend onto the project's area of potential effect (Figure 1). Archival sources consulted by ACS for this portion of the

literature review included historic maps and documents at the Arizona State Archives, GLO plats and land ownership records at the Bureau of Land Management-Arizona State Office, historic maps and archives at the Arizona Department of Mines and Mineral Resources, and archives and public records at the Cave Creek Museum.

Table 3. Summary of Previous Archaeological Research.

Location	Agency No./Project Description	Sites (*)	Reference(s)
T6N/R4E/§36 (NE¼)	ASU 79-037/No data	0	SHPO AZSite
T6N/R4E/§36 (S½SW¼)	ASM 1986-123/State Land Survey	0	Rozen 1986
T6N/R5E/§32 (W½)	ASM 1987-243/North Scottsdale Reconnaissance	15(0)	RECON 1987
T6N/R5E/§32	ASM 1995-90/Desert Troon-Carefree	6(0)	Crownover 1995
T5N/R4E/§4 (NW¼), §5 (NE¼); T6N/R4E/§33 (SW¼)	ASM 1996-461/Canyon Ridge Estates	9(2)	DeMaagd & Aguila 1997
T6N/R4E/§33 (S½)	ASM 1999-238/Stagecoach Pass Survey	0	Stubing 1999
T6N/R5E/§32 (SW¼)	ASM 2000-561/Tolleson Tower Survey	0	AZSite
T6N/R5E/§31 (SE¼NW¼)	ASM 2001-687/Pima & Cave Creek Survey	0	Lundin 1999

*Within 0.25 mi of current review area

Table 4. Summary of Previously Recorded Cultural Resources.

Site Number	Location	Site Type	Eligibility	Reference(s)
AZ U:1:252(ASM)*	T5N/R4E/§5 (NE¼)	Prehistoric artifact scatter	Unknown	DeMaagd & Aguila 1997
AZ U:1:259(ASM)*	T5N/R4E/§4 (NW¼)	Prehistoric artifact scatter	Unknown	DeMaagd & Aguila 1997

* Within 0.25 mi of current review area

Table 5. Historical Resources Summary.

Resource Type	Location	Source(s)
Mormon Girl Mine	T5N/R4E/§3, 4	GLO plats 1915, 1921; GLO MS 2678, 4472, 4473; Carlson 1996
Mormon Girl Mine Access Road*	T5N/R4E/§4	GLO plats 1915, 1921
Irrigation Ditch	T5N/R4E/§5	GLO plats 1915, 1921
Phoenix to Cave Creek Road*	T5N/R4E/§5	GLO plats 1915, 1921
Access road	T5N/R4E/§4, 5	GLO plats 1915, 1921
Access road	T6N/R4E/§25, 26	GLO plats 1915, 1921
Verde River Road*	T6N/R4E/§35	GLO plats 1915, 1921
Old Fort McDowell Road*	T6N/R4E/§26, 35, 36	GLO plats 1915, 1921

* Within 0.25 mi of current review area

Cultural Sensitivity Evaluation

ACS's literature review of 10 locations—eight drainage crossings and two drainage corridors—for proposed improvements associated with the Carefree Drainage Master Plan revealed that the locations have not been examined for cultural resources. Two prehistoric sites that were recommended as potentially eligible for the National Register are located within 0.25 mi of the proposed Design Site No. 6. In addition, eight historical properties have been identified in the review area, of which four—the old alignment of the Phoenix to Cave Creek Road, the Mormon Girl Mine access road, the Verde River Road, and the Old Fort McDowell Road—may extend within the project's area of potential effect. These historical resources have not been evaluated.

All project locations will need to be surveyed for cultural resources prior to construction. All areas of potential affect, such as construction sites, staging areas, and access routes, should be defined before the survey occurs. Should resources be found, avoidance is recommended if at all possible.

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TECHNICAL MEMORANDUM

CAREFREE DRAINAGE MASTER PLAN – ECOLOGICAL ASSESSMENT

Introduction and Methods

An ecological assessment was completed for eight design sites as part of the Carefree Drainage Master Plan. The purpose of the assessment was to identify and describe ecologically significant areas, which were defined as areas supporting native or natural vegetation. A field evaluation was completed at each site on January 1, 2003 to document habitat types and significant flora and fauna in the area.

Results

All eight design sites occur within the Town of Carefree, Maricopa County, Arizona, at elevations ranging from approximately 2,460 to 2,600 feet above mean sea level. Land uses are a mixture of low density residential, commercial, and remaining natural areas. The project area is located within the Arizona Upland Subdivision of the Sonoran Desertscrub biome. Natural plant communities are further described as Palo Verde-Mixed Cacti Series and *Ambrosia deltoidea-Cercidium microphyllum*-mixed scrub Association. Table 1 lists plant species noted during field evaluation. Vertebrate wildlife in the project area is typical of this plant community. Large mammals include mule deer (*Odocoileus hemionus*), javelina (*Dicotyles tajacu*), coyote (*Canis latrans*), and gray fox (*Urocyon cinereoargenteus*). Smaller vertebrates include cottontail (*Sylvilagus auduboni*), black-tailed jackrabbit (*Lepus californicus*), rock squirrel (*Spermophilus variegatus*), Harris' antelope ground-squirrel (*Ammospermophilus harrisii*), white-throated woodrat (*Neotoma albigula*), pocket mice (*Perognathus* spp.), field mice (*Peromyscus* spp.), and kangaroo rats (*Dipodomys* spp.). Bird species observed during field evaluation include Cactus Wren, Gila Woodpecker, Gilded Flicker, Phainopepla, Curve-billed Thrasher, Verdin, Costa's Hummingbird, Gambel's Quail, Phainopepla, Mourning Dove, Canyon Towhee, House Finch, Black-tailed Gnatcatcher, Rock Wren, White-crowned Sparrow, Common Raven, European Starling, Northern Mockingbird, and Bushtit. Each site is described specifically below.

<u>Galloway Wash</u>

This site includes Galloway Wash from the Pima Road alignment west to the Town boundary, a distance of approximately two miles. The area of potential impact was evaluated as the length of the wash and 50 feet on either side of the wash banks, an area totaling 43.60 acres.

This large ephemeral drainage runs through the Desert Forest Golf Club and private residential areas. The wash and the associated vegetation provide significant wildlife habitat, particularly for native birds. It is also used by coyotes, javelina, and smaller mammals. Evidence of mule deer use was found at the upper end of this reach. Plant species protected by the Arizona Native Plant Law ("protected plants") that occur within 50 feet of the wash banks include ocotillo, foothill and blue palo verde, velvet mesquite, saguaro, buckhorn and chainfruit cholla, hedgehog cactus, prickly-pear cactus, barrel cactus, pincushion cactus, and banana and soaptree yucca. There are approximately 50 saguaros over 8 feet in height within 50 feet of the wash banks, in addition to at least six smaller individuals. A honeybee hive was found in the north bank of the wash, approximately 600 feet east of the 80th Street alignment (Section 35 and 36 boundary).

<u>Site JEF 32</u>

This site is located at the Galloway Wash crossing of Pima Road. The area of potential impact was evaluated as a 100 foot-radius from the wash crossing of the road, an area totaling 0.72 acres. East of Pima Road, the wash remains in largely natural condition. West of the road, the wash bed and banks and the associated vegetation have been subject to scour and erosion.

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Table 1. Plant species observed in the project area.

Common Name	Scientific Name
TREES	
Catclaw acacia	*Acacia greggii*
Foothill palo verde[1]	*Cercidium microphyllum*
Blue palo verde[1]	*C. floridum*
Velvet mesquite[1]	*Prosopis velutina*
Ironwood[1]	*Olneya tesota*
Crucifixion thorn	*Canotia holocantha*
SHRUBS	
Desert hackberry	*Celtis pallida*
Desert broom	*Baccharis sarothroides*
Turpentine-brush	*Aplopappus laricifolius*
Giant bursage	*Ambrosia ambrosioides*
Triangle-leaf bursage	*A. deltoidea*
Ratany	*Krameria grayii*
Snakeweed	*Gutierrezia sarothrae*
Goldeneye	*Viguiera deltoidea*
Graythorn	*Ziziphus obtusifolia*
Jojoba	*Simmondsia chinensis*
Creosotebush	*Larrea tridentata*
Thornbush	*Lycium sp.*
Wild tobacco	*Nicotiana trigonophylla*
Desert lavender	*Hyptis emoryi*
Burro-bush	*Hymenoclea monogyra*
Feather-fairy duster	*Calliandra eriophylla*
Sweetbush	*Bebbia juncea*
CACTI AND SUCCULENTS	
Saguaro[1]	*Carnegiea gigantea*
Pincushion cactus[1]	*Mammallaria microcarpa*
Hedgehog[1]	*Echinocereus engelmannii*
Buckhorn cholla[1]	*Opuntia acanthocarpa*
Chainfruit cholla[1]	*O. fulgida*
Prickly-pear cactus[1]	*O. engelmannii*
Christmas cholla[1]	*Opuntia leptocaulis*
Barrel cactus[1]	*Ferocactus wislizeni*
Soaptree yucca[1]	*Yucca elata*
Banana yucca[1]	*Y. baccata*
FORBS AND GRASSES	
Desert marigold	*Baileya multiradiata*
Wild buckwheat	*Eriogonum fasciculatum*
Purple three-awn	*Aristida purpurea*
Brittle-bush	*Encelia farinosa*
Desert senna	*Cassia covesii*
Telegraph-weed	*Heterotheca subaxillaris*
Russian thistle	*Salsola kali*
Skeleton-weed	*Eriogonum deflexum*
OTHER	
Mistletoe	*Phoradendron californicum*
Ocotillo[1]	*Fouquieria splendens*

Protected plant species that occur within a 100-foot radius include ocotillo, foothill and blue palo verde, velvet mesquite, buckhorn and chainfruit cholla, hedgehog cactus, prickly-pear cactus, barrel cactus, pincushion cactus, and banana yucca. Most of this vegetation occurs east of the road. There are no saguaros in the 100-foot radius area.

[1] Protected by the Arizona Native Plant Law.

JEF 35

This site occurs where Galloway Wash crosses Tranquil Trail. The area of potential impact was evaluated as a 100 foot-radius from the wash crossing of the road, an area totaling 0.72 acres. This area has been disturbed to some degree by construction of this road, scour and erosion downstream of the road, and construction of earthen dikes above the wash banks. Protected plant species that occur within a 100-foot radius include foothill and blue palo verde, velvet mesquite, buckhorn cholla, prickly-pear cactus, saguaro, and banana yucca. Most of this vegetation occurs on the upland side of the dikes. There are approximately six saguaros in the 100-foot radius area.

No. 213

This site occurs near the intersection of Tranquil Trail and Carefree Drive, along a smaller ephemeral tributary south of Galloway Wash. The area of potential impact was evaluated as a 100 foot-radius from the wash crossing of the road, an area totaling 0.72 acres. This site falls within a largely residential area. Northwest of the intersection, this tributary has been channelized as it flows through an apartment complex. Upstream (southeast) of the intersection, the wash is in relatively natural condition. The area southwest of the intersection remains natural desert. Protected plant species that occur within a 100-foot radius include ocotillo, foothill palo verde, buckhorn cholla, prickly-pear cactus, barrel cactus, hedgehog cactus, pincushion cactus, Christmas cholla, saguaro, and banana yucca. Most of this vegetation occurs on the upland side of the dikes. There are two saguaros in the 100-foot radius area.

JEF 53/190

This site is located where a large ephemeral tributary to Galloway Wash crosses Rising Sun Road, west of 80th Street. The area of potential impact was evaluated as a 100 foot-radius from the wash crossing of the road, an area totaling 0.72 acres. This site occurs in a currently undeveloped natural area. Protected plant species that occur within a 100-foot radius include ocotillo, foothill and blue palo verde, buckhorn cholla, barrel cactus, saguaro, and soaptree and banana yucca. There are three saguaros in the 100-foot radius area.

JEF 52

This site occurs upstream of JEF 53/190, where the ephemeral tributary crosses Golden Spur Lane. The area of potential impact was evaluated as a 100 foot-radius from the wash crossing of the road, an area totaling 0.72 acres. The area is largely natural, except for residences located southeast and northwest of the crossing. The wash has been subject to some scour and erosion immediately downstream of the road. Protected plant species that occur within a 100-foot radius include foothill and blue palo verde, velvet mesquite, barrel cactus, and saguaro. There are seven saguaros in the 100-foot radius area.

JEF 44

This site is located where a second, larger ephemeral tributary to Galloway Wash crosses Sombrero Road. The area of potential impact was evaluated as a 100 foot-radius from the wash crossing of the road, an area totaling 0.72 acres. The area is largely natural, except that the wash parallels Cow Track Drive to the north. Protected plant species that occur within a 100-foot radius include ocotillo, foothill and blue palo verde, velvet mesquite, saguaro, and banana yucca. There are no saguaros in the 100-foot radius area.

No. 6

This site is located where Cave Creek Road crosses a large ephemeral drainage just north of River Road. The area of potential impact was evaluated as a 100 foot-radius from the wash

crossing of the road, an area totaling 0.72 acres. The area evaluated is natural, except for flood control structures (reinforced banks) that have been constructed downstream of the crossing. Residential development occurs immediately upstream and downstream of this area. Protected plant species that occur within a 100-foot radius include foothill and blue palo verde, velvet mesquite, ironwood, buckhorn and chainfruit cholla, Christmas cholla, hedgehog cactus, and saguaro. There are thirteen saguaros in the 100-foot radius area.

Recommendations

- Design alternatives should avoid impacts to natural vegetation to the extent possible. Avoidance of protected native plants is particularly important, especially saguaros which provide disproportionately high wildlife habitat values. Although not protected by the Arizona Native Plant Law, crucifixion thorn and large shrubs like desert hackberry, graythorn, jojoba, and thornbush provide high resource values for wildlife and should also be avoided. It is recommended that any protected native plants and large shrubs that must be impacted are salvaged on-site. If protected native plants are to be destroyed, the Arizona Department of Agriculture must be notified in writing at least 60 days prior.

- Areas disturbed as a result of construction should be stabilized immediately using a native seed mix.

- Care should be taken during any work conducted along the reach of Galloway Wash east of the 80th Street alignment. Virtually all wild bee colonies in Maricopa County are "Africanized" and will respond aggressively to human presence.

Carefree Drainage Improvements Permitting Summary

PREPARED FOR: Town of Carefree

PREPARED BY: Monique Chaisson/CH2M HILL

DATE: February 17, 2003

Introduction

This Technical Memorandum provides a summary and description of federal, state, and local (Maricopa County and Town of Carefree) permits, approvals, reviews, and similar actions that may be required for construction of drainage improvements in the Town of Carefree, Arizona. The technical memorandum provides a narrative background for each applicable permit program. Specific permitting details, such as application fees, contacts, and timeframes are summarized in Table 1.

The permits, approvals, reviews, plans or other similar actions that may be necessary to initiate construction activities for drainage improvements within the Town of Carefree are:

- Drainage Easements
- Temporary Construction Easement
- Right-of-Way Encroachment Permit
- Earth Moving Permit
- Dust Control Plan
- Floodplain Use Permit
- CWA 402 NPDES Stormwater Notice of Intent for Construction Activities
- CWA 402 NPDES Stormwater Notice of Termination of Construction Activities
- CWA 402 Stormwater Pollution Prevention Plan
- CWA 401 State Water Quality Certification
- AZ Protected Native Plants and Wood Removal Permit
- Notice of Intent to Clear Land
- CWA 404 Dredge and Fill Permit
- Endangered Species Act Clearance
- Cultural Resources Clearance

All of these actions must be completed prior to the start of construction, therefore sufficient lead time is required to ensure appropriate permitting of the project.

EDR Radius Map with GeoCheck Inquiry Number 896962.1s

The EDR Radius Map
with GeoCheck®

Carefree Drainage Master Plan
Galloway Wash
Carefree, AZ 85377

Inquiry Number: 896962.1s

December 12, 2002

Environmental Data Resources, Inc.

The Source For Environmental Risk Management Data

3530 Post Road
Southport, Connecticut 06890

Nationwide Customer Service

Telephone: 1-800-352-0050
Fax: 1-800-231-6802
Internet: www.edrnet.com

FORM-ACP

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Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc. (EDR). The report meets the government records search requirements of ASTM Standard Practice for Environmental Site Assessments, E 1527-00. Search distances are per ASTM standard or custom distances requested by the user.

TARGET PROPERTY INFORMATION

ADDRESS

GALLOWAY WASH
CAREFREE, AZ 85377

COORDINATES

Latitude (North):	33.824700 - 33' 49' 28.9"
Longitude (West):	111.906800 - 111' 54' 24.5"
Universal Tranverse Mercator:	Zone 12
UTM X (Meters):	416084.1
UTM Y (Meters):	3742895.0

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property:	2433111-G8 CAVE CREEK, AZ
Source:	USGS 7.5 min quad index

TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the ASTM E 1527-00 search radius around the target property for the following databases:

FEDERAL ASTM STANDARD

NPL..... National Priority List
Proposed NPL..... Proposed National Priority List Sites
CERCLIS..... Comprehensive Environmental Response, Compensation, and Liability Information System
CERC-NFRAP..... CERCLIS No Further Remedial Action Planned
CORRACTS..... Corrective Action Report
RCRIS-TSD..... Resource Conservation and Recovery Information System
RCRIS-LQG..... Resource Conservation and Recovery Information System
ERNS..... Emergency Response Notification System

STATE ASTM STANDARD

SPL..... Superfund Program List
SHWS..... ZipAcids List
SWF/LF..... Directory of Solid Waste Facilities
AZ WQARF..... Water Quality Assurance Revolving Fund Sites

FEDERAL ASTM SUPPLEMENTAL

CONSENT..... Superfund (CERCLA) Consent Decrees

EXECUTIVE SUMMARY

ROD..... Records Of Decision
Delisted NPL..... *National Priority List Deletions*
FINDS..... Facility Index System/Facility Identification Initiative Program Summary Report
HMIRS..... Hazardous Materials Information Reporting System
MLTS..... Material Licensing Tracking System
MINES..... Mines Master Index File
NPL Liens..... Federal Superfund Liens
PADS..... PCB Activity Database System
RAATS..... RCRA Administrative Action Tracking System
TRIS..... Toxic Chemical Release Inventory System
TSCA..... Toxic Substances Control Act
SSTS..... Section 7 Tracking Systems
FTTS..... FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

STATE OR LOCAL ASTM SUPPLEMENTAL

AST..... List of Aboveground Storage Tanks
AZ Spills..... Hazardous Material Logbook
AZ DOD..... Department of Defense Sites
Aquifer..... Waste Water Treatment Facilities
Dry Wells..... Drywell Registration
AZ AIRS..... Arizona Airs Database

EDR PROPRIETARY HISTORICAL DATABASES

Coal Gas..... Former Manufactured Gas (Coal Gas) Sites

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified.

Elevations have been determined from the USGS 1 degree Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. EDR's definition of a site with an elevation equal to the target property includes a tolerance of +/- 10 feet. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property (by more than 10 feet). Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

FEDERAL ASTM STANDARD

RCRIS: The Resource Conservation and Recovery Act database includes selected information on sites that generate, store, treat, or dispose of hazardous waste as defined by the Act. The source of this database is the U.S. EPA.

A review of the RCRIS-SQG list, as provided by EDR, and dated 09/09/2002 has revealed that there is 1 RCRIS-SQG site within approximately 1.25 miles of the target property.

Lower Elevation	Address	Dist / Dir	Map ID	Page
PS CLEANERS	***6920 E CAVE CREEK ROAD***	***1 - 2 WNW***	***6***	***8***

EXECUTIVE SUMMARY

STATE ASTM STANDARD

LUST: The Leaking Underground Storage Tank Incident Reports contain an inventory of reported leaking underground storage tank incidents. The data come from the Department of Environmental Quality's LUST File Listing by Zip Code.

A review of the LUST list, as provided by EDR, and dated 10/30/2002 has revealed that there are 2 LUST sites within approximately 1.5 miles of the target property.

Lower Elevation	Address	Dist / Dir	Map ID	Page
SKY RANCH AIRPORT AT CAREFREE	***8302 E CAVE CREEK RD***	***1/2 - 1 S***	***2***	***6***
AVANKIS/CAREFREE SHELL	***7201 E CAVE CREEK RD***	***1/2 - 1 WSW***	***3***	***6***

UST: The Underground Storage Tank database contains registered USTs. USTs are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA). The data come from the Department of Environmental Quality's Arizona UST-DMS Facility and Tank Data Listing by City database.

A review of the UST list, as provided by EDR, and dated 02/06/2002 has revealed that there are 5 UST sites within approximately 1.25 miles of the target property.

Equal/Higher Elevation	Address	Dist / Dir	Map ID	Page
SKYRANCH	8726 E AUTOPLANE DR	1/2 - 1 ESE	5	7

Lower Elevation	Address	Dist / Dir	Map ID	Page
DESERT FOREST GOLF CLUB	37207 N MULE TRAIN RD	1/8 - 1/4 SW	1	6
SKY RANCH AIRPORT AT CAREFREE	***8302 E CAVE CREEK RD***	***1/2 - 1 S***	***2***	***6***
AVANKIS/CAREFREE SHELL	***7201 E CAVE CREEK RD***	***1/2 - 1 WSW***	***3***	***6***
CAVE CREEK MAIN CO #143040	7153 CAVE CREEK RD	1/2 - 1 W	4	7

STATE OR LOCAL ASTM SUPPLEMENTAL

WWFAC: Statewide list of waste water treatment facilities.

A review of the WWFAC list, as provided by EDR, and dated 12/12/2000 has revealed that there are 2 WWFAC sites within approximately 1.5 miles of the target property.

Lower Elevation	Address	Dist / Dir	Map ID	Page
KWIK STOP CENTER - FOOTHILLS	6812 E. CAVE CREEK ROAD	1 - 2 WNW	7	8
SAGUARO HILL LANES & LOUNGE	6710 E CAVE CREEK ROAD	1 - 2 WNW	8	8

EXECUTIVE SUMMARY

Due to poor or inadequate address information, the following sites were not mapped:

Site Name	Database(s)
CAVE CREEK LDFL	CERC-NFRAP
BLACK MOUNTAIN SHADOWS	WWFAC
CAVE CREEK, TOWN OF WWTP	Aquifer, WWFAC
CAMP CREEK - TONTO NATIONAL FOREST	WWFAC
AT&T CAVE CREEK RS	UST
AT&T COMMUNICATIONS	UST
CAREFREE CLEANERS	RCRIS-SQG, FINDS
JANSON CLEANERS	RCRIS-SQG, FINDS
A T AND T CO CAVE CREEK	RCRIS-SQG, FINDS
POTABLE WATER WELL NO. 289	Dry Wells

MAP FINDINGS SUMMARY

Database	Target Property	Search Distance (Miles)	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted

AQUIFLOW - see EDR Physical Setting Source Addendum

TP = Target Property

NR = Not Requested at this Search Distance

* Sites may be listed in more than one database

Map ID Direction Distance Distance (ft.) Elevation	Site	Database(s)	EDR ID Number EPA ID Number

Coal Gas Site Search: No site was found in a search of Real Property Scan's ENVIROHAZ database.

NO SITES FOUND

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
CAREFREE	1000202304	CAREFREE CLEANERS	36889 N TOM DARLINGTON DR	85377	RCRIS-SQG, FINDS
SCOTTSDALE	S103277359	CAMP CREEK - TONTO NATIONAL FOREST	40202 NORTH CAVE CREEK RO	85262	WWFAC

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Elapsed ASTM days: *Provides confirmation that this EDR report meets or exceeds the 90-day updating requirement* of the ASTM standard.

FEDERAL ASTM STANDARD RECORDS

NPL: National Priority List
Source: EPA
Telephone: N/A
National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 10/24/02
Date Made Active at EDR: 12/09/02
Database Release Frequency: Semi-Annually
Date of Data Arrival at EDR: 11/04/02
Elapsed ASTM days: 35
Date of Last EDR Contact: 11/04/02

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 3
Telephone 215-814-5418

EPA Region 4
Telephone 404-562-8033

EPA Region 6
Telephone: 214-655-6659

EPA Region 8
Telephone: 303-312-6774

Proposed NPL: Proposed National Priority List Sites
Source: EPA
Telephone: N/A

Date of Government Version: 10/24/02
Date Made Active at EDR: 12/09/02
Database Release Frequency: Semi-Annually
Date of Data Arrival at EDR: 11/04/02
Elapsed ASTM days: 35
Date of Last EDR Contact: 11/04/02

CERCLIS: Comprehensive Environmental Response, Compensation, and Liability Information System
Source: EPA
Telephone: 703-413-0223
CERCLIS contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). CERCLIS contains sites which are either proposed to or on the National Priorities List (NPL) and sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 08/15/02
Date Made Active at EDR: 10/28/02
Database Release Frequency: Quarterly
Date of Data Arrival at EDR: 09/23/02
Elapsed ASTM days: 35
Date of Last EDR Contact: 09/23/02

CERCLIS-NFRAP: CERCLIS No Further Remedial Action Planned
Source: EPA
Telephone: 703-413-0223
As of February 1995, CERCLIS sites designated "No Further Remedial Action Planned" (NFRAP) have been removed from CERCLIS. NFRAP sites may be sites where, following an initial investigation, no contamination was found, contamination was removed quickly without the need for the site to be placed on the NPL, or the contamination was not serious enough to require Federal Superfund action or NPL consideration. EPA has removed approximately 25,000 NFRAP sites to lift the unintended barriers to the redevelopment of these properties and has archived them as historical records so EPA does not needlessly repeat the investigations in the future. This policy change is part of the EPA's Brownfields Redevelopment Program to help cities, states, private investors and affected citizens to promote economic redevelopment of unproductive urban sites.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Component Name: GRAN

Soil Surface Texture: very gravelly - sandy loam

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class: Well drained. Soils have intermediate water holding capacity. Depth to water table is more than 6 feet.

Hydric Status: Soil does not meet the requirements for a hydric soil.

Corrosion Potential - Uncoated Steel: HIGH

Depth to Bedrock Min: > 20 inches

Depth to Bedrock Max: > 40 inches

Soil Layer Information

	Boundary			Classification			
Layer	**Upper**	**Lower**	**Soil Texture Class**	**AASHTO Group**	**Unified Soil**	**Permeability Rate (in/hr)**	**Soil Reaction (pH)**
1	0 inches	1 inches	very gravelly - sandy loam	Granular materials (35 pct. or less passing No. 200), Stone Fragments, Gravel and Sand.	COURSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 6.00 Min: 2.00	Max: 8.40 Min: 7.40
2	1 inches	12 inches	very gravelly - sandy clay	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COURSE-GRAINED SOILS, Sands, Sands with fines, Clayey sand.	Max: 0.60 Min: 0.20	Max: 8.40 Min: 7.40
3	12 inches	36 inches	weathered bedrock	Not reported	Not reported	Max: 0.00 Min: 0.00	Max: 0.00 Min: 0.00
4	36 inches	40 inches	unweathered bedrock	Not reported	Not reported	Max: 0.00 Min: 0.00	Max: 0.00 Min: 0.00

OTHER SOIL TYPES IN AREA

Based on Soil Conservation Service STATSGO data, the following additional subordinant soil types may appear within the general area of target property.

Soil Surface Textures: unweathered bedrock
very gravelly - clay loam

Surficial Soil Types: unweathered bedrock
very gravelly - clay loam

Shallow Soil Types: No Other Soil Types

Deeper Soil Types: No Other Soil Types

ADDITIONAL ENVIRONMENTAL RECORD SOURCES

According to ASTM E 1527-00, Section 7.2.2, "one or more additional state or local sources of environmental records may be checked, in the discretion of the environmental professional, to enhance and supplement federal and state sources... Factors to consider in determining which local or additional state records, if any, should be checked include (1) whether they are reasonably ascertainable, (2) whether they are sufficiently useful, accurate, and complete in light of the objective of the records review (see 7.1.1), and (3) whether they are obtained, pursuant to local, good commercial or customary practice." One of the record sources listed in Section 7.2.2 is water well information. Water well information can be used to assist the environmental professional in assessing sources that may impact groundwater flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

WELL SEARCH DISTANCE INFORMATION

DATABASE	SEARCH DISTANCE (miles)
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 1 mile
State Database	1.000

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
B4	334852111522101	1/4 - 1/2 Mile SSE
C7	334850111525701	1/2 - 1 Mile SW
E11	334940111514901	1/2 - 1 Mile NE
14	334924111532401	1/2 - 1 Mile West
G19	334953111531301	1/2 - 1 Mile NW
F20	334851111532501	1/2 - 1 Mile WSW

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
6	AZ0407015	1/2 - 1 Mile SSW

Note: PWS System location is not always the same as well location.

STATE DATABASE WELL INFORMATION

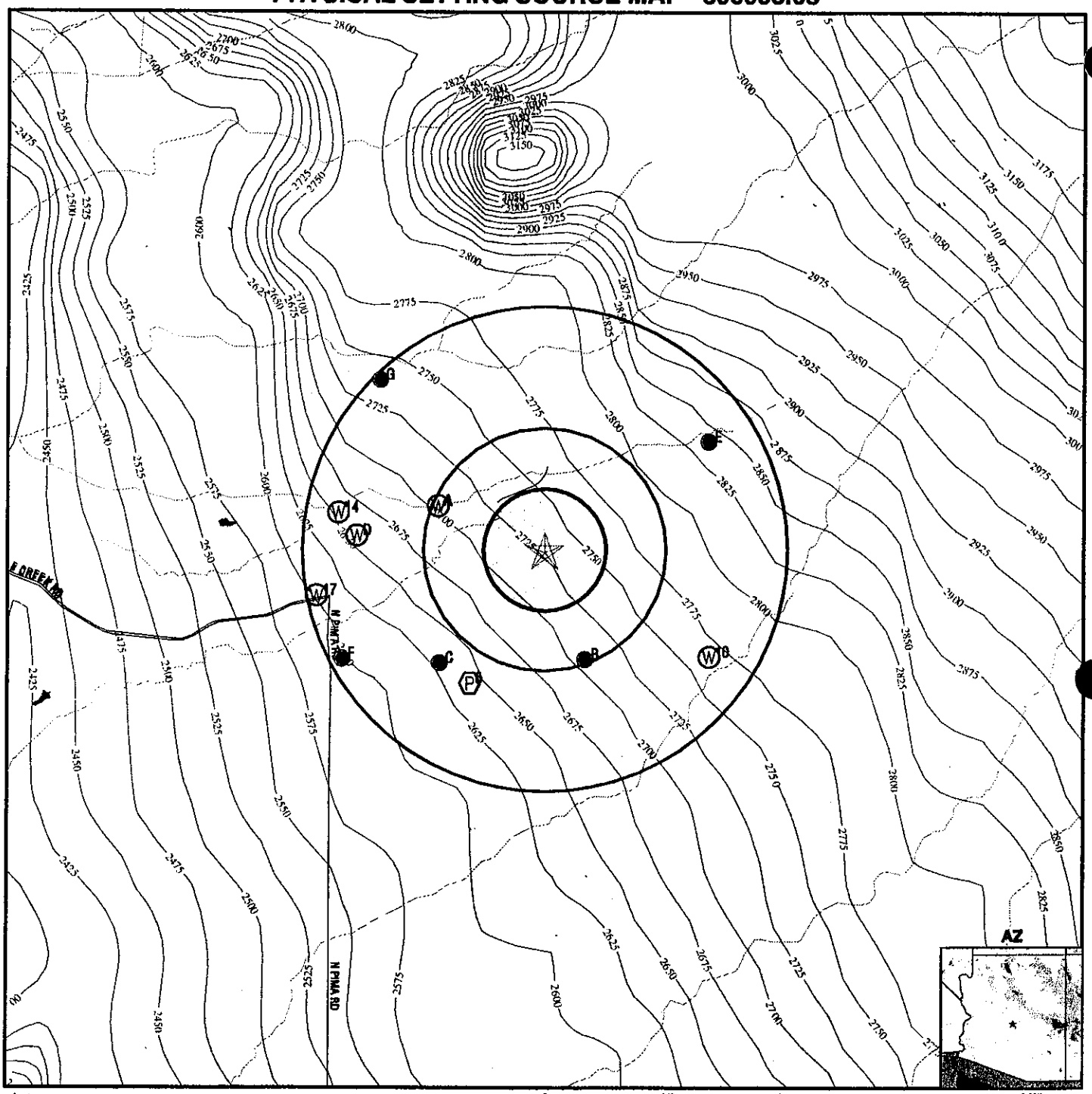
MAP ID	WELL ID	LOCATION FROM TP
A1	AZWR505942	1/4 - 1/2 Mile WNW
A2	AZWR511578	1/4 - 1/2 Mile WNW
B3	AZWR600926	1/4 - 1/2 Mile SSE
C5	AZWR604783	1/2 - 1 Mile SW
D8	AZWR577141	1/2 - 1 Mile West
E9	AZWR606415	1/2 - 1 Mile ENE
10	AZWR806337	1/2 - 1 Mile ESE
D12	AZWR511364	1/2 - 1 Mile West
D13	AZWR606413	1/2 - 1 Mile West

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
F15	AZWR604782	1/2 - 1 Mile WSW
F16	AZWR087491	1/2 - 1 Mile WSW
17	AZWR501421	1/2 - 1 Mile WSW
G18	AZWR606414	1/2 - 1 Mile NW

PHYSICAL SETTING SOURCE MAP - 896955.6s



County Boundary
Major Roads
Contour Lines
Water Wells
Public Water Supply Wells
Groundwater Flow Direction
Indeterminate Groundwater Flow at Location
Groundwater Flow Varies at Location
Cluster of Multiple Icons

0 1/2 1 2 Miles

Earthquake epicenter, Richter 5 or greater
Closest Hydrogeological Data

TARGET PROPERTY:	Carefree Drainage Master Plan	CUSTOMER:	CH2M Hill, Inc.
ADDRESS:	Stagecoach Pass Wash Trib.	CONTACT:	Monique Chaisson
CITY/STATE/ZIP:	Carefree AZ 85377	INQUIRY #:	896955.6s
LAT/LONG:	33.8211 / 111.8759	DATE:	December 12, 2002 3:43 pm

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Map ID Direction Distance Elevation	Database	EDR ID Number
A1 **WNW** **1/4 - 1/2 Mile** **Lower**	**AZ WELLS**	**AZWR505942**

Registryid:	505942	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	5	Eastwest:	E
Section:	31	Acre160:	NW
Acre40:	SE	Acre10:	NE
Utmx:	418300.7	Utmy:	3742765.3
Welltype:	REPLACEMENT WELL IN NEW LOCATION	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	INDUSTRIAL
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	Not Reported
Driller:	0	Welldepth:	0
Waterlevel:	0	Casingtype:	Not Reported
Casingdeep:	0	Casingwide:	0
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drillog:	Not Reported
Lastname:	CAREFREE PROPERTIES,	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 1269		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Y

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported
	AZ

A2 **WNW** **1/4 - 1/2 Mile** **Lower**	**AZ WELLS**	**AZWR511578**

Registryid:	511578	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	5	Eastwest:	E
Section:	31	Acre160:	NW
Acre40:	SE	Acre10:	NE
Utmx:	418300.7	Utmy:	3742765.3
Welltype:	SERVICE	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	IRRIGATION
Wateruse2:	Not Reported	Wateruse3:	Not Reported

Approved:	Not Reported	Installed:	08/27/1986 00:00:00
Driller:	7	Welldepth:	1620
Waterlevel:	321	Casingtype:	STEEL - PERFORATED OR SLOTTED CASING
Casingdeep:	1600	Casingwide:	20
Pumptype:	TURBINE	Pumppower:	ELECTRIC MOTOR > 100 HP
Pumprate:	1250	Testrate:	1475
Drawdown:	493	Drilllog:	X
Lastname:	Not Reported	Firstname:	Not Reported
Company:	CITY OF SCOTTSDALE		
Address:	9388 E SAN SALVADOR		
City:	SCOTTSDALE	State:	AZ
Zipcode:	85258	Cancelled:	Not Reported

Registryid:	511578	Pump1984:	0
Pump1985:	0	Pump1986:	0
Pump1987:	766.68	Pump1988:	789.48
Pump1989:	1024.5	Pump1990:	691.6
Pump1991:	745.93	Pump1992:	816.05
Pump1993:	650.93	Pump1994:	291
Pump1995:	0	Pump1996:	0
Pump1997:	117.54	Pump1998:	118.95
Pump1999:	3.74	Pumptotal:	6019.44

Driller:	7
Company:	LAYNE CHRISTENSEN COMPANY
Address:	12030 EAST RIGGS ROAD CHANDLER, AZ 85249

B3
SSE
1/4 - 1/2 Mile
Lower

AZ WELLS **AZWR600926**

Registryid:	600926	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	5	Eastwest:	E
Section:	32	Acre160:	SW
Acre40:	SW	Acre10:	SW
Utmx:	419285.3	Utmy:	3741750.2
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	01/01/1966 00:00:00
Driller:	0	Welldepth:	810
Waterlevel:	400	Casingtype:	OTHER - BLACK STEEL - IRON - SEAMLESS
Casingdeep:	810	Casingwide:	8
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	30	Testrate:	30
Drawdown:	0	Drilllog:	N
Lastname:	SANDS GROUP, LLC,	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 95		
City:	GLENDALE	State:	AZ
Zipcode:	85311	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported
	AZ

B4
SSE
1/4 - 1/2 Mile
Lower

FED USGS **334852111522101**

BASIC WELL DATA

Site Type:	Single well, other than collector or Ranney type		
Year Constructed:	Not Reported	County:	Maricopa
Altitude:	2680.00 ft.	State:	Arizona
Well Depth:	Not Reported	Topographic Setting:	Undulating
Depth to Water Table:	Not Reported	Prim. Use of Site:	Unused
Date Measured:	Not Reported	Prim. Use of Water:	Not Reported

C5
SW
1/2 - 1 Mile
Lower

AZ WELLS **AZWR604783**

Registryid:	604783	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	5	Eastwest:	E
Section:	31	Acre160:	SW
Acre40:	SE	Acre10:	SE
Utmx:	418281.1	Utmy:	3741764
Welltype:	NON-EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	MUNICIPAL
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	01/01/1968 00:00:00
Driller:	0	Welldepth:	648
Waterlevel:	240	Casingtype:	STEEL - PERFORATED OR SLOTTED CASING
Casingdeep:	648	Casingwide:	8
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	160	Testrate:	160
Drawdown:	0	Drilllog:	Not Reported
Lastname:	CAREFREE WATER CO,	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 702		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported

Registryid:	604783	Pump1984:	267.8
Pump1985:	264.91	Pump1986:	265.9
Pump1987:	211.6	Pump1988:	243.66
Pump1989:	277.2	Pump1990:	285.1
Pump1991:	262.74	Pump1992:	270.26
Pump1993:	255.06	Pump1994:	241.59
Pump1995:	241.97	Pump1996:	256.15
Pump1997:	251.26	Pump1998:	239.57
Pump1999:	189.26	Pumptotal:	4157.2

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported AZ

6
SSW
1/2 - 1 Mile
Lower

FRDS PWS **AZ0407015**

PWS ID:	AZ0407015	PWS Status:	Not Reported
Date Initiated:	Not Reported	Date Deactivated:	Not Reported
PWS Name:	CAREFREE WATER CO INC PO BOX 702 CAREFREE, AZ 85377		
Addressee / Facility:	System Owner/Responsible Party CAREFREE WATER CO INC P.O. BOX 7724 PHOENIX, AZ 85011		
Facility Latitude:	33 49 51	Facility Longitude:	111 55 00
Facility Latitude:	33 49 33	Facility Longitude:	111 54 29
Facility Latitude:	33 48 47	Facility Longitude:	111 52 50
Facility Latitude:	33 48 47	Facility Longitude:	111 53 24
Facility Latitude:	33 49 22	Facility Longitude:	111 53 59
City Served:	CAREFREE		
Treatment Class:	Untreated	Population:	2400

PWS currently has or had major violation(s) or enforcement: Yes

Violations information not reported.

ENFORCEMENT INFORMATION:

System Name:	CAREFREE WATER CO INC		
Violation Type:	Monitoring, Routine Minor (TCR)		
Contaminant:	COLIFORM (TCR)		
Compliance Period:	1998-01-01 - 1998-01-31	Analytical Value:	0000000.000000000
Violation ID:	98036146	Enforcement ID:	Not Reported
Enforcement Date:	Not Reported	Enf. Action:	Not Reported

C7
SW
1/2 - 1 Mile
Lower

FED USGS **334850111525701**

BASIC WELL DATA

Site Type:	Single well, other than collector or Ranney type		
Year Constructed:	1969	County:	Maricopa
Altitude:	2600.00 ft.	State:	Arizona
Well Depth:	648.00 ft.	Topographic Setting:	Not Reported
Depth to Water Table:	224.00 ft.	Prim. Use of Site:	Withdrawal of water
Date Measured:	Not Reported	Prim. Use of Water:	Domestic

Map ID Direction Distance Elevation	Database	EDR ID Number
D8 **West** **1/2 - 1 Mile** **Lower**	**AZ WELLS**	**AZWR577141**

Registryid:	577141	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	5	Eastwest:	E
Section:	31	Acre160:	NW
Acre40:	SW	Acre10:	SE
Utmx:	417894.2	Utmy:	3742571.9
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	08/31/2000 00:00:00
Driller:	200	Welldepth:	504
Waterlevel:	410	Casingtype:	STEEL - PERFORATED OR SLOTTED CASING
Casingdeep:	504	Casingwide:	6
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drillog:	X
Lastname:	BROWN	Firstname:	ROGER
Company:	Not Reported		
Address:	PO BOX 5006		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported

Driller:	200
Company:	SOUTHLAND WELL DRILLING
Address:	38916 W. SALOME HWY. TONOPAH, AZ 85354

E9 **ENE** **1/2 - 1 Mile** **Higher**		**AZ WELLS**	**AZWR606415**

Registryid:	606415	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	5	Eastwest:	E
Section:	32	Acre160:	NE
Acre40:	NW	Acre10:	NW
Utmx:	420111.9	Utmy:	3743149.5
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	STOCK
Wateruse2:	Not Reported	Wateruse3:	Not Reported

Approved:	Not Reported	Installed:	Not Reported
Driller:	0	Welldepth:	800
Waterlevel:	315	Casingtype:	STEEL - PERFORATED OR SLOTTED CASING
Casingdeep:	800	Casingwide:	8
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	30	Testrate:	0
Drawdown:	0	Drilllog:	Not Reported
Lastname:	DESERT MOUNTAIN,	Firstname:	Not Reported
Company:	Not Reported		
Address:	6263 N SCOTTSDALE RD		
City:	SCOTTSDALE	State:	AZ
Zipcode:	85250	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported AZ

10
ESE
1/2 - 1 Mile
Higher

AZ WELLS **AZWR806337**

Registryid:	806337	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	5	Eastwest:	E
Section:	32	Acre160:	SE
Acre40:	SW	Acre10:	SW
Utmx:	420092.4	Utmy:	3741746.2
Welltype:	NON-EXEMPT	Welluse1:	ABANDONED
Welluse2:	CAPPED	Wateruse1:	NONE
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	12/31/1966 00:00:00
Driller:	7	Welldepth:	0
Waterlevel:	0	Casingtype:	STEEL - PERFORATED OR SLOTTED CASING
Casingdeep:	0	Casingwide:	8
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drilllog:	Not Reported
Lastname:	Not Reported	Firstname:	Not Reported
Company:	DESERT SD OWNERS LP		
Address:	8711 E PINNACLE PK RD #D100		
City:	SCOTTSDALE	State:	AZ
Zipcode:	85255	Cancelled:	Y

Driller:	7
Company:	LAYNE CHRISTENSEN COMPANY
Address:	12030 EAST RIGGS ROAD CHANDLER, AZ 85249

Map ID Direction Distance Elevation	Database	EDR ID Number
E11 **NE** **1/2 - 1 Mile** **Higher**	**FED USGS**	**334940111514901**

BASIC WELL DATA

Site Type:	Single well, other than collector or Ranney type		
Year Constructed:	Not Reported	County:	Maricopa
Altitude:	2810.00 ft.	State:	Arizona
Well Depth:	Not Reported	Topographic Setting:	Undulating
Depth to Water Table:	Not Reported	Prim. Use of Site:	Withdrawal of water
Date Measured:	Not Reported	Prim. Use of Water:	Stock

D12 **West** **1/2 - 1 Mile** **Lower**	**AZ WELLS**	**AZWR511364**

Registryid:	511364	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	5	Eastwest:	E
Section:	31	Acre160:	NW
Acre40:	SW	Acre10:	SW
Utmx:	417693.5	Utmy:	3742575.3
Welltype:	NON-SERVICE	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	RECREATION
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	12/21/1978 00:00:00
Driller:	0	Welldepth:	1500
Waterlevel:	259	Casingtype:	Not Reported
Casingdeep:	1500	Casingwide:	12
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drillog:	N
Lastname:	SONORA DEVL CO # 274,	Firstname:	Not Reported
Company:	Not Reported		
Address:	7373 N SCOTTSDALE RD		
City:	SCOTTSDALE	State:	AZ
Zipcode:	85253	Cancelled:	Y

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported AZ

D13 **West** **1/2 - 1 Mile** **Lower**	**AZ WELLS**	**AZWR606413**

Registryid:	606413	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	5	Eastwest:	E
Section:	31	Acre160:	NW
Acre40:	SW	Acre10:	SW
Utmx:	417693.5	Utmy:	3742575.3
Welltype:	SERVICE	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	12/21/1972 00:00:00
Driller:	0	Welldepth:	1500
Waterlevel:	259	Casingtype:	STEEL - PERFORATED OR SLOTTED CASING
Casingdeep:	1500	Casingwide:	12
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	800	Testrate:	800
Drawdown:	0	Drilllog:	Not Reported
Lastname:	SCOTTSDALE, CITY OF,	Firstname:	Not Reported
Company:	Not Reported		
Address:	9388 E SAN SALVADOR		
City:	SCOTTSDALE	State:	AZ
Zipcode:	85258	Cancelled:	Not Reported

Registryid:	606413	Pump1984:	0
Pump1985:	6	Pump1986:	556
Pump1987:	555.97	Pump1988:	241.48
Pump1989:	681.2	Pump1990:	635.2
Pump1991:	690.34	Pump1992:	501.82
Pump1993:	128.76	Pump1994:	155
Pump1995:	0	Pump1996:	0
Pump1997:	349.68	Pump1998:	350.16
Pump1999:	468.22	Pumptotal:	5887.94

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported AZ

14
West
1/2 - 1 Mile
Lower

FED USGS **334924111532401**

BASIC WELL DATA

Site Type:	Single well, other than collector or Ranney type		
Year Constructed:	1978	County:	Maricopa
Altitude:	2595.00 ft.	State:	Arizona
Well Depth:	1500.00 ft.	Topographic Setting:	Undulating
Depth to Water Table:	Not Reported	Prim. Use of Site:	Unused
Date Measured:	Not Reported	Prim. Use of Water:	Not Reported

F15
WSW
1/2 - 1 Mile
Lower

AZ WELLS **AZWR604782**

Registryid:	604782	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	5	Eastwest:	E
Section:	31	Acre160:	SW
Acre40:	SW	Acre10:	SW
Utmx:	417683.1	Utmy:	3741772.6
Welltype:	NON-EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	MUNICIPAL
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	06/30/1981 00:00:00
Driller:	0	Welldepth:	1165
Waterlevel:	222	Casingtype:	STEEL - PERFORATED OR SLOTTED CASING
Casingdeep:	1165	Casingwide:	16
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	1000	Testrate:	1000
Drawdown:	0	Drillog:	Not Reported
Lastname:	CAREFREE WATER CO,	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 702		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported

Registryid:	604782	Pump1984:	377.67
Pump1985:	504.66	Pump1986:	518.28
Pump1987:	684.2	Pump1988:	669.69
Pump1989:	646.91	Pump1990:	304.76
Pump1991:	402.49	Pump1992:	305.2
Pump1993:	343.97	Pump1994:	363.97
Pump1995:	178.53	Pump1996:	145.14
Pump1997:	197.06	Pump1998:	189.03
Pump1999:	55.55	Pumptotal:	6026.85

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported
	AZ

F16
WSW
1/2 - 1 Mile
Lower

AZ WELLS **AZWR087491**

Registryid:	087491	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	5	Eastwest:	E
Section:	31	Acre160:	SW
Acre40:	SW	Acre10:	SW
Utmx:	417683.1	Utmy:	3741772.6
Welltype:	REPLACEMENT WELL IN NEW LOCATION	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	UTILITY (WATER CO)
Wateruse2:	Not Reported	Wateruse3:	Not Reported

Approved:	Not Reported	Installed:	05/25/1981 00:00:00
Driller:	0	Welldepth:	1163
Waterlevel:	222	Casingtype:	STEEL - PERFORATED OR SLOTTED CASING
Casingdeep:	1163	Casingwide:	16
Pumptype:	TURBINE	Pumppower:	ELECTRIC MOTOR 16 - 100 HP
Pumprate:	1000	Testrate:	1000
Drawdown:	38	Drilllog:	Not Reported
Lastname:	CAREFREE WATER CO,	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 702		
City:	CAREFREE	State:	AZ
Zipcode:	85331	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported AZ

17
WSW
1/2 - 1 Mile
Lower

AZ WELLS **AZWR501421**

Registryid:	501421	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	36	Acre160:	SE
Acre40:	NE	Acre10:	SE
Utmx:	417488.1	Utmy:	3742176.2
Welltype:	REPLACEMENT WELL IN NEW LOCATION	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	INDUSTRIAL
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	Not Reported
Driller:	0	Welldepth:	0
Waterlevel:	0	Casingtype:	Not Reported
Casingdeep:	0	Casingwide:	0
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drilllog:	Not Reported
Lastname:	BOULDERS CAREFREE,	Firstname:	Not Reported
Company:	Not Reported		
Address:	6300 YUCCA ROAD		
City:	PARADISE VALLEY	State:	AZ
Zipcode:	85253	Cancelled:	Y

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported AZ

Map ID Direction Distance Elevation		Database	EDR ID Number
G18 **NW** **1/2 - 1 Mile** **Higher**		**AZ WELLS**	**AZWR606414**

Registryid:	606414	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	5	Eastwest:	E
Section:	30	Acre160:	SW
Acre40:	SW	Acre10:	NE
Utmx:	417911.6	Utmy:	3743576.9
Welltype:	NON-EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	05/09/1962 00:00:00
Driller:	0	Welldepth:	1160
Waterlevel:	320	Casingtype:	Not Reported
Casingdeep:	1180	Casingwide:	10
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	150	Testrate:	150
Drawdown:	0	Drilllog:	Not Reported
Lastname:	SCOTTSDALE, CITY OF,	Firstname:	Not Reported
Company:	Not Reported		
Address:	9388 E SAN SALVADOR		
City:	SCOTTSDALE	State:	AZ
Zipcode:	85258	Cancelled:	Not Reported

Registryid:	606414	Pump1984:	179.3
Pump1985:	112.05	Pump1986:	117
Pump1987:	82.79	Pump1988:	63.8
Pump1989:	110.8	Pump1990:	152.6
Pump1991:	144.96	Pump1992:	155.08
Pump1993:	122.46	Pump1994:	44
Pump1995:	0	Pump1996:	0
Pump1997:	0	Pump1998:	0
Pump1999:	0	Pumptotal:	1284.84

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported AZ

G19 **NW** **1/2 - 1 Mile** **Higher**		**FED USGS**	**334953111531301**

BASIC WELL DATA

Site Type:	Single well, other than collector or Ranney type		
Year Constructed:	1961	County:	Maricopa
Altitude:	2665.00 ft.	State:	Arizona
Well Depth:	1217.00 ft.	Topographic Setting:	Hilltop
Depth to Water Table:	278.54 ft.	Prim. Use of Site:	Withdrawal of water
Date Measured:	05081962	Prim. Use of Water:	Stock

Map ID Direction Distance Elevation	Database	EDR ID Number
F20 **WSW** **1/2 - 1 Mile** **Lower**	**FED USGS**	**334851111532501**

BASIC WELL DATA

Site Type:	Single well, other than collector or Ranney type		
Year Constructed:	Not Reported	County:	Maricopa
Altitude:	2610.00 ft.	State:	Arizona
Well Depth:	Not Reported	Topographic Setting:	Undulating
Depth to Water Table:	210.20 ft.	Prim. Use of Site:	Withdrawal of water
Date Measured:	11111976	Prim. Use of Water:	Domestic

GEOCHECK®- PHYSICAL SETTING SOURCE MAP FINDINGS
RADON

AREA RADON INFORMATION

Federal EPA Radon Zone for MARICOPA County: 2

Note: Zone 1 indoor average level > 4 pCi/L.
: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
: Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for MARICOPA COUNTY, AZ

Number of sites tested: 695

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	1.697 pCi/L	93%	7%	0%
Living Area - 2nd Floor	3.640 pCi/L	80%	20%	0%
Basement	2.242 pCi/L	79%	21%	0%

PHYSICAL SETTING SOURCE RECORDS SEARCHED

HYDROLOGIC INFORMATION

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 1999 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002 from the U.S. Fish and Wildlife Service.

HYDROGEOLOGIC INFORMATION

AQUIFLOW[R] Information System
Source: EDR proprietary database of groundwater flow information
EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit
Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database
The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the national Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

ADDITIONAL ENVIRONMENTAL RECORD SOURCES

FEDERAL WATER WELLS

PWS: Public Water Systems
Source: EPA/Office of Drinking Water
Telephone: 202-260-2805
Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data
Source: EPA/Office of Drinking Water
Telephone: 202-260-2805
Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: In November 1971 the United States Geological Survey (USGS) implemented a national water resource information tracking system. This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on more than 900,000 wells, springs, and other sources of groundwater.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

STATE RECORDS

Arizona Well Registration Database
Source: Department of Water Resources
Telephone: 602-771-1586
Contains information provided to ADWR's Operations Division by well drillers and/or owners.

RADON

Area Radon Information
Source: USGS
Telephone: 303-202-4210
The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones
Source: EPA
Telephone: 202-564-9370
Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

OTHER

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

TOPOGRAPHIC INFORMATION

Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

USGS TOPOGRAPHIC MAP ASSOCIATED WITH THIS SITE

Target Property: 2433111-G8 CAVE CREEK, AZ
Source: USGS 7.5 min quad index

GENERAL TOPOGRAPHIC GRADIENT AT TARGET PROPERTY

Target Property: General SW

Source: General Topographic Gradient has been determined from the USGS 1 Degree Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

Target Property County	FEMA Flood Electronic Data
MARICOPA, AZ	YES - refer to the Overview Map and Detail Map

Flood Plain Panel at Target Property: 04013C0809G

Additional Panels in search area: 04013C0850D
04013C0820E

NATIONAL WETLAND INVENTORY

NWI Quad at Target Property	NWI Electronic Data Coverage
NOT AVAILABLE	Not Available

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Site-Specific Hydrogeological Data*:

Search Radius:	2.0 miles
Status:	Not found

AQUIFLOW®

Search Radius: 2.000 Miles.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

MAP ID	LOCATION FROM TP	GENERAL DIRECTION GROUNDWATER FLOW
Not Reported		

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

Era:	Precambrian
System:	Precambrian
Series:	X granitic rocks
Code:	Xg *(decoded above as Era, System & Series)*

GEOLOGIC AGE IDENTIFICATION

Category: Plutonic and Intrusive Rocks

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps. The following information is based on Soil Conservation Service STATSGO data.

* ©1996 Site-specific hydrogeological data gathered by CERCLIS Alerts, Inc., Bainbridge Island, WA. All rights reserved. All of the information and opinions presented are those of the cited EPA report(s), which were completed under a Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS) investigation.

SKYRANCH (Continued) — **U003229074**

Facility ID: 0-007470 — Tank ID: 1.00000
In Use: False
Date Removed: / /
Date Closed: / /
In Use: False

Facility ID: 0-007470 — Tank ID: 2.00000
In Use: True
Date Removed: / /
Date Closed: / /
In Use: True

---

6 WNW > 1 5540 ft. Lower

PS CLEANERS
6920 E CAVE CREEK ROAD
CAVE CREEK, AZ 85331

RCRIS-SQG / FINDS — **1000174436 / AZD981656143**

RCRIS:
Owner: WILLAM & ANGELA DUNSING
(415) 555-1212
EPA ID: AZD981656143
Contact: ENVIRONMENTAL MANAGER
(602) 488-3051
Classification: Small Quantity Generator
Used Oil Recyc: No
TSDF Activities: Not reported
Violation Status: No violations found

FINDS:
Other Pertinent Environmental Activity Identified at Site:
Facility Registry System (FRS)
Resource Conservation and Recovery Act Information system (RCRAINFO)

---

7 WNW > 1 6606 ft. Lower

KWIK STOP CENTER - FOOTHILLS
6812 E. CAVE CREEK ROAD
CAVE CREEK, AZ 85377

WWFAC — **S102788859 / N/A**

AZ WWFAC:
Owner Address: Not reported

---

8 WNW > 1 7913 ft. Lower

SAGUARO HILL LANES & LOUNGE
6710 E CAVE CREEK ROAD
CAVE CREEK, AZ 85331

WWFAC — **S102789795 / N/A**

AZ WWFAC:
Owner Address: PO Box 1090
Carefree, A Z8533

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
COUNTY	S102987631	POTABLE WATER WELL NO. 289	NORTH OF DYNAMITE BOULEVARD ON	85331	Dry Wells
CAREFREE	1000202304	CAREFREE CLEANERS	36889 N TOM DARLINGTON DR	85377	RCRIS-SQG, FINDS
CAVE CREEK	1001486731	JANSON CLEANERS	29606 N CAVE CREEK RD STE 106	85331	RCRIS-SQG, FINDS
CAVE CREEK	1000351894	A T AND T CO CAVE CREEK	6.2 MI E OF	85331	RCRIS-SQG, FINDS
CAVE CREEK	U001628484	AT&T CAVE CREEK RS	6.5 MI E OF CAVE CREEK BARLETT	85331	UST
CAVE CREEK	S104826745	BLACK MOUNTAIN SHADOWS	6948 E. HORIZON DRIVE	85331	WWFAC
CAVE CREEK	1003878171	CAVE CREEK LDFL	1 1/2 MI W OF CAREFREE HWY	85331	CERC-NFRAP
CAVE CREEK	U003547335	AT&T COMMUNICATIONS	6.2 MILES E OF CAVE CREEK	85331	UST
CAVE CREEK	S102787860	CAVE CREEK, TOWN OF WWTP	5600 E. RANCHO MANANA BLV	85331	Aquifer, WWFAC
SCOTTSDALE	S103277359	CAMP CREEK - TONTO NATIONAL FOREST	40202 NORTH CAVE CREEK RO	85262	WWFAC

Coal Gas Site Search: No site was found in a search of Real Property Scan's ENVIROHAZ database.

---

1 SW 1/8-1/4 705 ft. Lower

DESERT FOREST GOLF CLUB
37207 N MULE TRAIN RD
CAREFREE, AZ 85377

UST
U001156922
N/A

UST:

Facility ID:	0-006085	Tank ID:	1.00000
In Use:	False		
Date Removed:	11/10/1989		
Date Closed:	/ /		
In Use:	False		

---

2 South 1/2-1 3029 ft. Lower

SKY RANCH AIRPORT AT CAREFREE
8302 E CAVE CREEK RD
CAREFREE, AZ 85377

LUST
UST
U000737209
N/A

LUST:

Facility ID:	0-005697
Lust Number:	0485.01
Leak Priority:	CLOSED SOIL LVL MEETS TIER1
Notification:	07/06/1988
Date Closed:	06/12/1996

UST:

Facility ID:	0-005697	Tank ID:	1.00000
In Use:	False		
Date Removed:	09/11/1989		
Date Closed:	/ /		
In Use:	False		
Facility ID:	0-005697	Tank ID:	2.00000
In Use:	False		
Date Removed:	09/11/1989		
Date Closed:	/ /		
In Use:	False		
Facility ID:	0-005697	Tank ID:	3.00000
In Use:	True		
Date Removed:	/ /		
Date Closed:	/ /		
In Use:	True		
Facility ID:	0-005697	Tank ID:	4.00000
In Use:	True		
Date Removed:	/ /		
Date Closed:	/ /		
In Use:	True		

---

3 WSW 1/2-1 3537 ft. Lower

AVANKIS/CAREFREE SHELL
7201 E CAVE CREEK RD
CAREFREE, AZ 85377

LUST
UST
U003229049
N/A

AVANKIS/CAREFREE SHELL (Continued) **U003229049**

LUST:

Facility ID:	0-005635
Lust Number:	3835.01
Leak Priority:	CLOSED SOIL LVL MEETS TIER1
Notification:	12/21/1994
Date Closed:	03/31/2000

Facility ID:	0-005635
Lust Number:	3835.02
Leak Priority:	UNDEFINED OR UNKNOWN SOIL CONTAMINATION
Notification:	12/21/1994
Date Closed:	Not reported

UST:

Facility ID:	0-005635	Tank ID:	1.00000
In Use:	True		
Date Removed:	/ /		
Date Closed:	/ /		
In Use:	True		

Facility ID:	0-005635	Tank ID:	2.00000
In Use:	True		
Date Removed:	/ /		
Date Closed:	/ /		
In Use:	True		

Facility ID:	0-005635	Tank ID:	3.00000
In Use:	False		
Date Removed:	12/08/1994		
Date Closed:	/ /		
In Use:	False		

Facility ID:	0-005635	Tank ID:	4.00000
In Use:	True		
Date Removed:	/ /		
Date Closed:	/ /		
In Use:	True		

---

4 West 1/2-1 3797 ft. Lower — **CAVE CREEK MAIN CO #143040**, **7153 CAVE CREEK RD**, **CAVE CREEK, AZ 85331** — **UST** **U003051765** **N/A**

UST:

Facility ID:	0-003402	Tank ID:	1.00000
In Use:	False		
Date Removed:	09/01/1990		
Date Closed:	/ /		
In Use:	False		

---

5 ESE 1/2-1 4166 ft. Higher — **SKYRANCH**, **8726 E AUTOPLANE DR**, **CAREFREE, AZ 85377** — **UST** **U003229074** **N/A**

UST:

MAP FINDINGS SUMMARY

Database	Target Property	Search Distance (Miles)	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
FEDERAL ASTM STANDARD								
NPL		2.000	0	0	0	0	0	0
Proposed NPL		2.000	0	0	0	0	0	0
CERCLIS		1.500	0	0	0	0	0	0
CERC-NFRAP		1.250	0	0	0	0	0	0
CORRACTS		2.000	0	0	0	0	0	0
RCRIS-TSD		1.500	0	0	0	0	0	0
RCRIS Lg. Quan. Gen.		1.250	0	0	0	0	0	0
RCRIS Sm. Quan. Gen.		1.250	0	0	0	0	1	1
ERNS		1.000	0	0	0	0	NR	0
STATE ASTM STANDARD								
SPL		2.000	0	0	0	0	0	0
State Haz. Waste		2.000	0	0	0	0	0	0
State Landfill		1.500	0	0	0	0	0	0
LUST		1.500	0	0	0	2	0	2
UST		1.250	0	1	0	4	0	5
AZ WQARF		2.000	0	0	0	0	0	0
FEDERAL ASTM SUPPLEMENTAL								
CONSENT		2.000	0	0	0	0	0	0
ROD		2.000	0	0	0	0	0	0
Delisted NPL		2.000	0	0	0	0	0	0
FINDS		1.000	0	0	0	0	NR	0
HMIRS		1.000	0	0	0	0	NR	0
MLTS		1.000	0	0	0	0	NR	0
MINES		1.250	0	0	0	0	0	0
NPL Liens		1.000	0	0	0	0	NR	0
PADS		1.000	0	0	0	0	NR	0
RAATS		1.000	0	0	0	0	NR	0
TRIS		1.000	0	0	0	0	NR	0
TSCA		1.000	0	0	0	0	NR	0
SSTS		1.000	0	0	0	0	NR	0
FTTS		1.000	0	0	0	0	NR	0
STATE OR LOCAL ASTM SUPPLEMENTAL								
AST		1.000	0	0	0	0	NR	0
AZ Spills		1.000	0	0	0	0	NR	0
AZ DOD		1.500	0	0	0	0	0	0
WWFAC		1.500	0	0	0	0	2	2
Aquifer		1.000	0	0	0	0	NR	0
Dry Wells		1.000	0	0	0	0	NR	0
AZ AIRS		1.000	0	0	0	0	NR	0
EDR PROPRIETARY HISTORICAL DATABASES								
Coal Gas		2.000	0	0	0	0	0	0

MAP FINDINGS SUMMARY

Database	Target Property	Search Distance (Miles)	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted

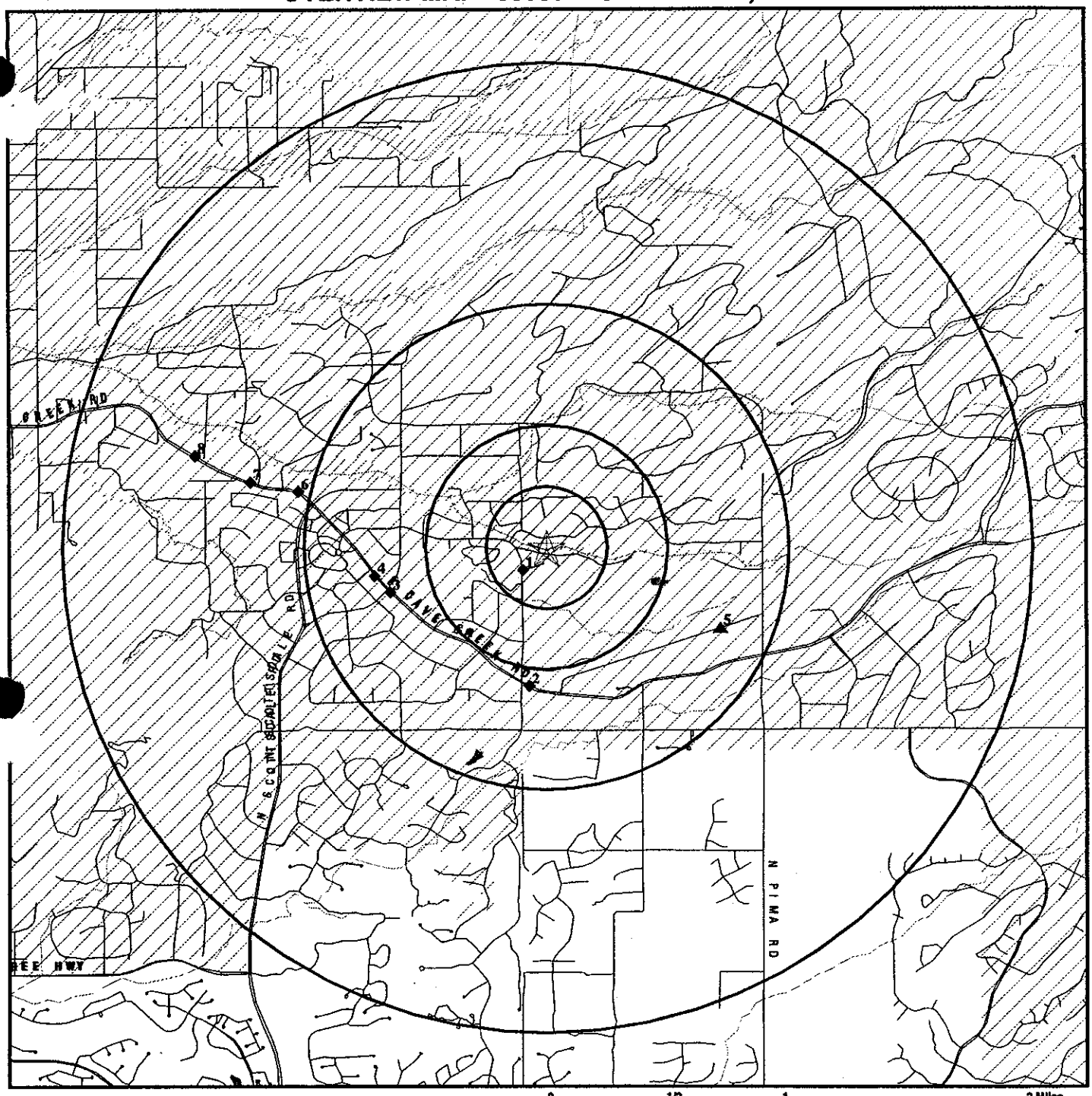
AQUIFLOW - see EDR Physical Setting Source Addendum

TP = Target Property

NR = Not Requested at this Search Distance

* Sites may be listed in more than one database

OVERVIEW MAP - 896962.1s - CH2M Hill, Inc.



- ★ Target Property
- ▲ Sites at elevations higher than or equal to the target property
- ◆ Sites at elevations lower than the target property
- ♟ Coal Gasification Sites
- National Priority List Sites
- Landfill Sites
- Power transmission lines
- Oil & Gas pipelines
- 100-year flood zone
- 500-year flood zone
- Dept. of Defense Sites
- Water Quality Assurance Revolving Fund Areas

TARGET PROPERTY:	Carefree Drainage Master Plan	CUSTOMER:	CH2M Hill, Inc.
ADDRESS:	Galloway Wash	CONTACT:	Monique Chaisson
CITY/STATE/ZIP:	Carefree AZ 85377	INQUIRY #:	896962.1s
LAT/LONG:	33.8247 / 111.9068	DATE:	December 12, 2002 1:31 pm

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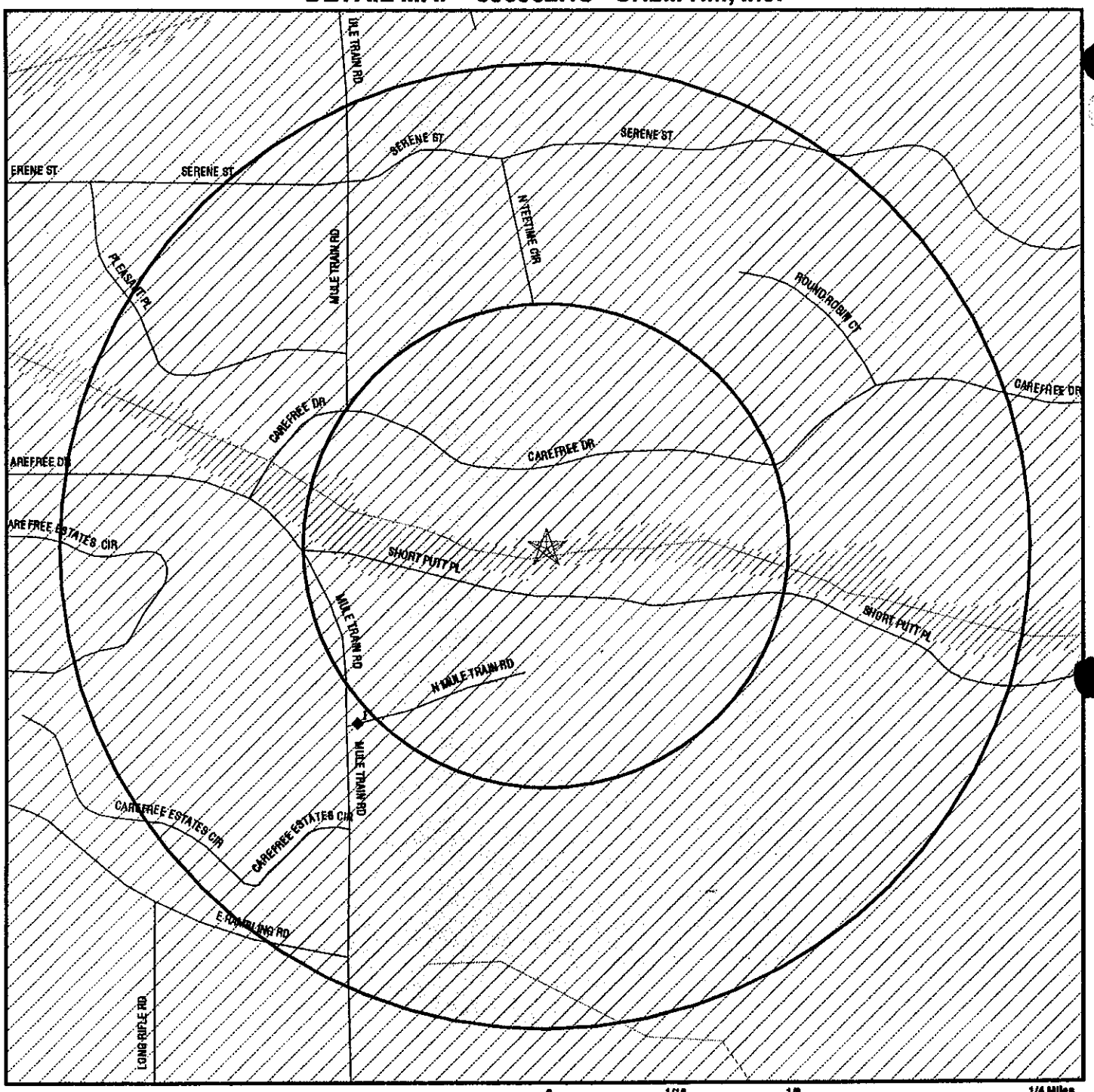
DETAIL MAP - 896962.1s - CH2M Hill, Inc.



0 1/16 1/8 1/4 Miles

- ★ Target Property
- ▲ Sites at elevations higher than or equal to the target property
- ◆ Sites at elevations lower than the target property
- ♟ Coal Gasification Sites
- Sensitive Receptors
- National Priority List Sites
- Landfill Sites
- Power transmission lines
- Oil & Gas pipelines
- 100-year flood zone
- 500-year flood zone
- Dept. of Defense Sites
- Water Quality Assurance Revolving Fund Areas

TARGET PROPERTY:	Carefree Drainage Master Plan	CUSTOMER:	CH2M Hill, Inc.
ADDRESS:	Galloway Wash	CONTACT:	Monique Chaisson
CITY/STATE/ZIP:	Carefree AZ 85377	INQUIRY #:	896962.1s
LAT/LONG:	33.8247 / 111.9068	DATE:	December 12, 2002 1:33 pm

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The EDR Radius Map
with GeoCheck®

Carefree Drainage Master Plan
Galloway Wash
Carefree, AZ 85377

Inquiry Number: 896962.1s

December 12, 2002

Environmental Data Resources, Inc.

The Source For Environmental Risk Management Data

3530 Post Road
Southport, Connecticut 06890

Nationwide Customer Service

Telephone: 1-800-352-0050
Fax: 1-800-231-6802
Internet: www.edrnet.com

FORM-ACP

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GEOCHECK ADDENDUM

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Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc. (EDR). The report meets the government records search requirements of ASTM Standard Practice for Environmental Site Assessments, E 1527-00. Search distances are per ASTM standard or custom distances requested by the user.

TARGET PROPERTY INFORMATION

ADDRESS

GALLOWAY WASH
CAREFREE, AZ 85377

COORDINATES

Latitude (North):	33.824700 - 33' 49' 28.9"
Longitude (West):	111.906800 - 111' 54' 24.5"
Universal Tranverse Mercator:	Zone 12
UTM X (Meters):	416084.1
UTM Y (Meters):	3742895.0

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property:	2433111-G8 CAVE CREEK, AZ
Source:	USGS 7.5 min quad index

TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the ASTM E 1527-00 search radius around the target property for the following databases:

FEDERAL ASTM STANDARD

NPL..... National Priority List
Proposed NPL..... Proposed National Priority List Sites
CERCLIS..... Comprehensive Environmental Response, Compensation, and Liability Information System
CERC-NFRAP..... CERCLIS No Further Remedial Action Planned
CORRACTS..... Corrective Action Report
RCRIS-TSD..... Resource Conservation and Recovery Information System
RCRIS-LQG..... Resource Conservation and Recovery Information System
ERNS..... Emergency Response Notification System

STATE ASTM STANDARD

SPL..... Superfund Program List
SHWS..... ZipAcids List
SWF/LF..... Directory of Solid Waste Facilities
AZ WQARF..... Water Quality Assurance Revolving Fund Sites

FEDERAL ASTM SUPPLEMENTAL

CONSENT..... Superfund (CERCLA) Consent Decrees

EXECUTIVE SUMMARY

ROD..... Records Of Decision
Delisted NPL..... National Priority List Deletions
FINDS..... Facility Index System/Facility Identification Initiative Program Summary Report
HMIRS..... Hazardous Materials Information Reporting System
MLTS..... Material Licensing Tracking System
MINES..... Mines Master Index File
NPL Liens..... Federal Superfund Liens
PADS..... PCB Activity Database System
RAATS..... RCRA Administrative Action Tracking System
TRIS..... Toxic Chemical Release Inventory System
TSCA..... Toxic Substances Control Act
SSTS..... Section 7 Tracking Systems
FTTS..... FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

STATE OR LOCAL ASTM SUPPLEMENTAL

AST..... List of Aboveground Storage Tanks
AZ Spills..... Hazardous Material Logbook
AZ DOD..... Department of Defense Sites
Aquifer..... Waste Water Treatment Facilities
Dry Wells..... Drywell Registration
AZ AIRS..... Arizona Airs Database

EDR PROPRIETARY HISTORICAL DATABASES

Coal Gas..... Former Manufactured Gas (Coal Gas) Sites

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified.

Elevations have been determined from the USGS 1 degree Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. EDR's definition of a site with an elevation equal to the target property includes a tolerance of +/- 10 feet. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property (by more than 10 feet). Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

FEDERAL ASTM STANDARD

RCRIS: The Resource Conservation and Recovery Act database includes selected information on sites that generate, store, treat, or dispose of hazardous waste as defined by the Act. The source of this database is the U.S. EPA.

A review of the RCRIS-SQG list, as provided by EDR, and dated 09/09/2002 has revealed that there is 1 RCRIS-SQG site within approximately 1.25 miles of the target property.

Lower Elevation	Address	Dist / Dir	Map ID	Page
PS CLEANERS	*6920 E CAVE CREEK ROAD*	*1 - 2 WNW*	*6*	*8*

EXECUTIVE SUMMARY

STATE ASTM STANDARD

LUST: The Leaking Underground Storage Tank Incident Reports contain an inventory of reported leaking underground storage tank incidents. The data come from the Department of Environmental Quality's *LUST File Listing by Zip Code.*

A review of the LUST list, as provided by EDR, and dated 10/30/2002 has revealed that there are 2 LUST sites within approximately 1.5 miles of the target property.

Lower Elevation	Address	Dist / Dir	Map ID	Page
SKY RANCH AIRPORT AT CAREFREE	***8302 E CAVE CREEK RD***	***1/2 - 1 S***	***2***	***6***
AVANKIS/CAREFREE SHELL	***7201 E CAVE CREEK RD***	***1/2 - 1 WSW***	***3***	***6***

UST: The Underground Storage Tank database contains registered USTs. USTs are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA). The data come from the Department of Environmental Quality's Arizona UST-DMS Facility and Tank Data Listing by City database.

A review of the UST list, as provided by EDR, and dated 02/06/2002 has revealed that there are 5 UST sites within approximately 1.25 miles of the target property.

Equal/Higher Elevation	Address	Dist / Dir	Map ID	Page
SKYRANCH	8726 E AUTOPLANE DR	1/2 - 1 ESE	5	7

Lower Elevation	Address	Dist / Dir	Map ID	Page
DESERT FOREST GOLF CLUB	37207 N MULE TRAIN RD	1/8 - 1/4 SW	1	6
SKY RANCH AIRPORT AT CAREFREE	***8302 E CAVE CREEK RD***	***1/2 - 1 S***	***2***	***6***
AVANKIS/CAREFREE SHELL	***7201 E CAVE CREEK RD***	***1/2 - 1 WSW***	***3***	***6***
CAVE CREEK MAIN CO #143040	7153 CAVE CREEK RD	1/2 - 1 W	4	7

STATE OR LOCAL ASTM SUPPLEMENTAL

WWFAC: Statewide list of waste water treatment facilities.

A review of the WWFAC list, as provided by EDR, and dated 12/12/2000 has revealed that there are 2 WWFAC sites within approximately 1.5 miles of the target property.

Lower Elevation	Address	Dist / Dir	Map ID	Page
KWIK STOP CENTER - FOOTHILLS	6812 E. CAVE CREEK ROAD	1 - 2 WNW	7	8
SAGUARO HILL LANES & LOUNGE	6710 E CAVE CREEK ROAD	1 - 2 WNW	8	8

EXECUTIVE SUMMARY

Due to poor or inadequate address information, the following sites were not mapped:

Site Name	Database(s)
CAVE CREEK LDFL	CERC-NFRAP
BLACK MOUNTAIN SHADOWS	WWFAC
CAVE CREEK, TOWN OF WWTP	Aquifer, WWFAC
CAMP CREEK - TONTO NATIONAL FOREST	WWFAC
AT&T CAVE CREEK RS	UST
AT&T COMMUNICATIONS	UST
CAREFREE CLEANERS	RCRIS-SQG, FINDS
JANSON CLEANERS	RCRIS-SQG, FINDS
A T AND T CO CAVE CREEK	RCRIS-SQG, FINDS
POTABLE WATER WELL NO. 289	Dry Wells

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

ADDITIONAL ENVIRONMENTAL RECORD SOURCES

According to ASTM E 1527-00, Section 7.2.2, "one or more additional state or local sources of environmental records may be checked, in the discretion of the environmental professional, to enhance and supplement federal and state sources... Factors to consider in determining which local or additional state records, if any, should be checked include (1) whether they are reasonably ascertainable, (2) whether they are sufficiently useful, accurate, and complete in light of the objective of the records review (see 7.1.1), and (3) whether they are obtained, pursuant to local, good commercial or customary practice." One of the record sources listed in Section 7.2.2 is water well information. Water well information can be used to assist the environmental professional in assessing sources that may impact groundwater flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

WELL SEARCH DISTANCE INFORMATION

DATABASE	SEARCH DISTANCE (miles)
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 1 mile
State Database	1.000

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
B4	334852111522101	1/4 - 1/2 Mile SSE
C7	334850111525701	1/2 - 1 Mile SW
E11	334940111514901	1/2 - 1 Mile NE
14	334924111532401	1/2 - 1 Mile West
G19	334953111531301	1/2 - 1 Mile NW
F20	334851111532501	1/2 - 1 Mile WSW

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
6	AZ0407015	1/2 - 1 Mile SSW

Note: PWS System location is not always the same as well location.

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
A1	AZWR505942	1/4 - 1/2 Mile WNW
A2	AZWR511578	1/4 - 1/2 Mile WNW
B3	AZWR600926	1/4 - 1/2 Mile SSE
C5	AZWR604783	1/2 - 1 Mile SW
D8	AZWR577141	1/2 - 1 Mile West
E9	AZWR606415	1/2 - 1 Mile ENE
10	AZWR806337	1/2 - 1 Mile ESE
D12	AZWR511364	1/2 - 1 Mile West
D13	AZWR606413	1/2 - 1 Mile West

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Component Name: GRAN

Soil Surface Texture: very gravelly - sandy loam

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class: Well drained. Soils have intermediate water holding capacity. Depth to water table is more than 6 feet.

Hydric Status: Soil does not meet the requirements for a hydric soil.

Corrosion Potential - Uncoated Steel: HIGH

Depth to Bedrock Min: > 20 inches

Depth to Bedrock Max: > 40 inches

Soil Layer Information

	Boundary			Classification			
Layer	**Upper**	**Lower**	**Soil Texture Class**	**AASHTO Group**	**Unified Soil**	**Permeability Rate (in/hr)**	**Soil Reaction (pH)**
1	0 inches	1 inches	very gravelly - sandy loam	Granular materials (35 pct. or less passing No. 200), Stone Fragments, Gravel and Sand.	COURSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 6.00 Min: 2.00	Max: 8.40 Min: 7.40
2	1 inches	12 inches	very gravelly - sandy clay	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COURSE-GRAINED SOILS, Sands, Sands with fines, Clayey sand.	Max: 0.60 Min: 0.20	Max: 8.40 Min: 7.40
3	12 inches	36 inches	weathered bedrock	Not reported	Not reported	Max: 0.00 Min: 0.00	Max: 0.00 Min: 0.00
4	36 inches	40 inches	unweathered bedrock	Not reported	Not reported	Max: 0.00 Min: 0.00	Max: 0.00 Min: 0.00

OTHER SOIL TYPES IN AREA

Based on Soil Conservation Service STATSGO data, the following additional subordinant soil types may appear within the general area of target property.

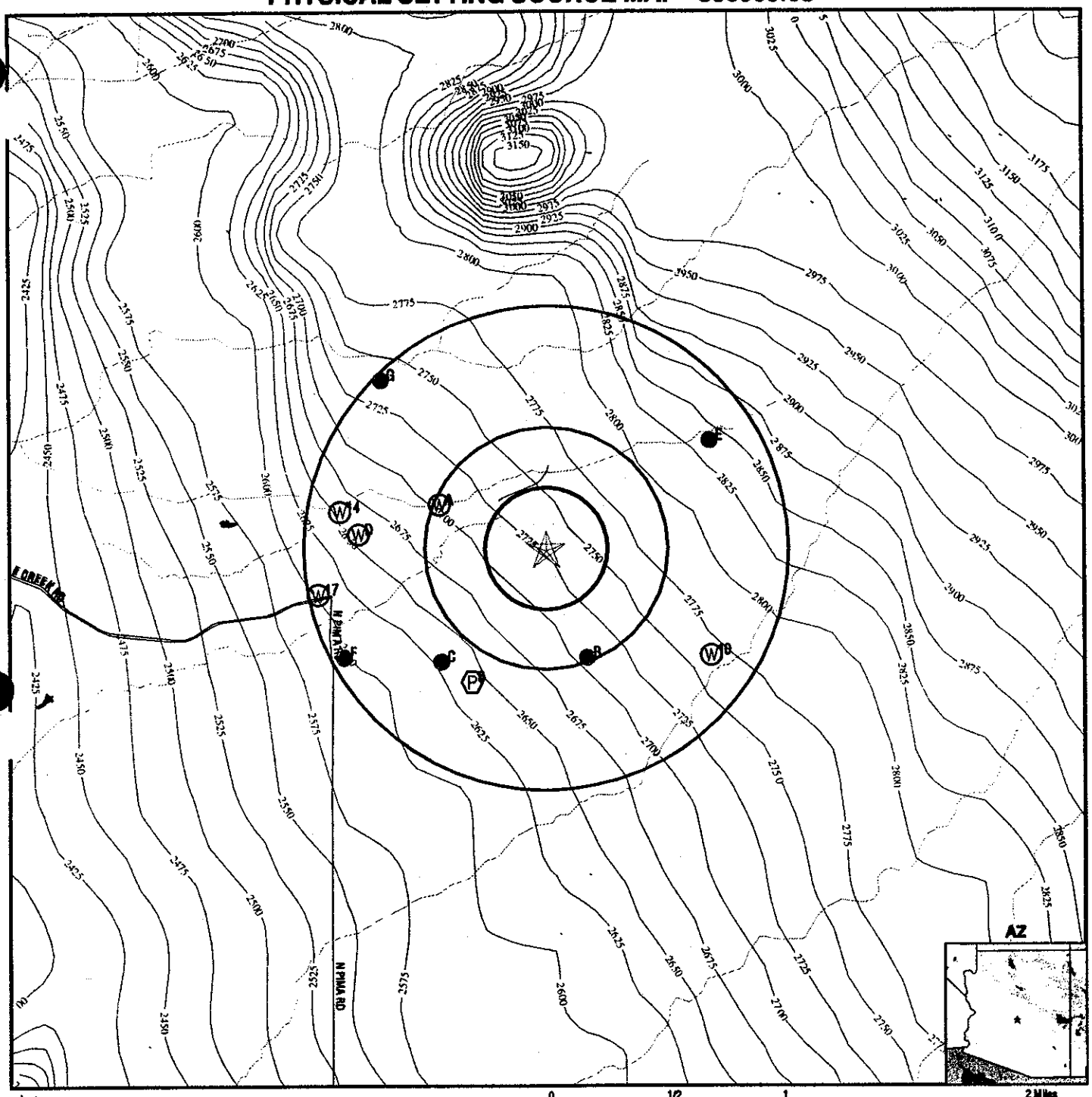
Soil Surface Textures: unweathered bedrock
very gravelly - clay loam

Surficial Soil Types: unweathered bedrock
very gravelly - clay loam

Shallow Soil Types: No Other Soil Types

Deeper Soil Types: No Other Soil Types

PHYSICAL SETTING SOURCE MAP - 896955.6s



County Boundary
Major Roads
Contour Lines
Water Wells
Public Water Supply Wells
Groundwater Flow Direction
Indeterminate Groundwater Flow at Location
Groundwater Flow Varies at Location
Cluster of Multiple Icons

0 1/2 1 2 Miles

Earthquake epicenter, Richter 5 or greater
Closest Hydrogeological Data

TARGET PROPERTY:	Carefree Drainage Master Plan	CUSTOMER:	CH2M Hill, Inc.
ADDRESS:	Stagecoach Pass Wash Trib.	CONTACT:	Monique Chaisson
CITY/STATE/ZIP:	Carefree AZ 85377	INQUIRY #:	896955.6s
LAT/LONG:	33.8211 / 111.8759	DATE:	December 12, 2002 3:43 pm

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GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
F15	AZWR604782	1/2 - 1 Mile WSW
F16	AZWR087491	1/2 - 1 Mile WSW
17	AZWR501421	1/2 - 1 Mile WSW
G18	AZWR606414	1/2 - 1 Mile NW

Map ID Direction Distance Elevation		Database	EDR ID Number
A1 **WNW** **1/4 - 1/2 Mile** **Lower**		**AZ WELLS**	**AZWR505942**

Registryid:	505942	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	5	Eastwest:	E
Section:	31	Acre160:	NW
Acre40:	SE	Acre10:	NE
Utmx:	418300.7	Utmy:	3742765.3
Welltype:	REPLACEMENT WELL IN NEW LOCATION	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	INDUSTRIAL
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	Not Reported
Driller:	0	Welldepth:	0
Waterlevel:	0	Casingtype:	Not Reported
Casingdeep:	0	Casingwide:	0
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drilllog:	Not Reported
Lastname:	CAREFREE PROPERTIES,	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 1269		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Y

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported AZ

A2 **WNW** **1/4 - 1/2 Mile** **Lower**		**AZ WELLS**	**AZWR511578**

Registryid:	511578	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	5	Eastwest:	E
Section:	31	Acre160:	NW
Acre40:	SE	Acre10:	NE
Utmx:	418300.7	Utmy:	3742765.3
Welltype:	SERVICE	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	IRRIGATION
Wateruse2:	Not Reported	Wateruse3:	Not Reported

Approved:	Not Reported	Installed:	08/27/1986 00:00:00
Driller:	7	Welldepth:	1620
Waterlevel:	321	Casingtype:	STEEL - PERFORATED OR SLOTTED CASING
Casingdeep:	1600	Casingwide:	20
Pumptype:	TURBINE	Pumppower:	ELECTRIC MOTOR > 100 HP
Pumprate:	1250	Testrate:	1475
Drawdown:	493	Drillog:	X
Lastname:	Not Reported	Firstname:	Not Reported
Company:	CITY OF SCOTTSDALE		
Address:	9388 E SAN SALVADOR		
City:	SCOTTSDALE	State:	AZ
Zipcode:	85258	Cancelled:	Not Reported

Registryid:	511578	Pump1984:	0
Pump1985:	0	Pump1986:	0
Pump1987:	766.68	Pump1988:	789.48
Pump1989:	1024.5	Pump1990:	691.6
Pump1991:	745.93	Pump1992:	816.05
Pump1993:	650.93	Pump1994:	291
Pump1995:	0	Pump1996:	0
Pump1997:	117.54	Pump1998:	118.95
Pump1999:	3.74	Pumptotal:	6019.44

Driller:	7
Company:	LAYNE CHRISTENSEN COMPANY
Address:	12030 EAST RIGGS ROAD CHANDLER, AZ 85249

B3
SSE
1/4 - 1/2 Mile
Lower

AZ WELLS AZWR600926

Registryid:	600926	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	5	Eastwest:	E
Section:	32	Acre160:	SW
Acre40:	SW	Acre10:	SW
Utmx:	419285.3	Utmy:	3741750.2
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	01/01/1966 00:00:00
Driller:	0	Welldepth:	810
Waterlevel:	400	Casingtype:	OTHER - BLACK STEEL - IRON - SEAMLESS
Casingdeep:	810	Casingwide:	8
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	30	Testrate:	30
Drawdown:	0	Drillog:	N
Lastname:	SANDS GROUP, LLC,	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 95		
City:	GLENDALE	State:	AZ
Zipcode:	85311	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported
	AZ

B4
SSE
1/4 - 1/2 Mile
Lower

FED USGS **334852111522101**

BASIC WELL DATA

Site Type:	Single well, other than collector or Ranney type		
Year Constructed:	Not Reported	County:	Maricopa
Altitude:	2680.00 ft.	State:	Arizona
Well Depth:	Not Reported	Topographic Setting:	Undulating
Depth to Water Table:	Not Reported	Prim. Use of Site:	Unused
Date Measured:	Not Reported	Prim. Use of Water:	Not Reported

C5
SW
1/2 - 1 Mile
Lower

AZ WELLS **AZWR604783**

Registryid:	604783	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	5	Eastwest:	E
Section:	31	Acre160:	SW
Acre40:	SE	Acre10:	SE
Utmx:	418281.1	Utmy:	3741764
Welltype:	NON-EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	MUNICIPAL
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	01/01/1968 00:00:00
Driller:	0	Welldepth:	648
Waterlevel:	240	Casingtype:	STEEL - PERFORATED OR SLOTTED CASING
Casingdeep:	648	Casingwide:	8
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	160	Testrate:	160
Drawdown:	0	Drilllog:	Not Reported
Lastname:	CAREFREE WATER CO,	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 702		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported

Registryid:	604783	Pump1984:	267.8
Pump1985:	264.91	Pump1986:	265.9
Pump1987:	211.6	Pump1988:	243.66
Pump1989:	277.2	Pump1990:	285.1
Pump1991:	262.74	Pump1992:	270.26
Pump1993:	255.06	Pump1994:	241.59
Pump1995:	241.97	Pump1996:	256.15
Pump1997:	251.26	Pump1998:	239.57
Pump1999:	189.26	Pumptotal:	4157.2

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported AZ

6
SSW
1/2 - 1 Mile
Lower

FRDS PWS **AZ0407015**

PWS ID:	AZ0407015	PWS Status:	Not Reported
Date Initiated:	Not Reported	Date Deactivated:	Not Reported
PWS Name:	CAREFREE WATER CO INC PO BOX 702 CAREFREE, AZ 85377		
Addressee / Facility:	System Owner/Responsible Party CAREFREE WATER CO INC P.O. BOX 7724 PHOENIX, AZ 85011		

Facility Latitude:	33 49 51	Facility Longitude:	111 55 00
Facility Latitude:	33 49 33	Facility Longitude:	111 54 29
Facility Latitude:	33 48 47	Facility Longitude:	111 52 50
Facility Latitude:	33 48 47	Facility Longitude:	111 53 24
Facility Latitude:	33 49 22	Facility Longitude:	111 53 59
City Served:	CAREFREE		
Treatment Class:	Untreated	Population:	2400

PWS currently has or had major violation(s) or enforcement: Yes

Violations information not reported.

ENFORCEMENT INFORMATION:

System Name:	CAREFREE WATER CO INC		
Violation Type:	Monitoring, Routine Minor (TCR)		
Contaminant:	COLIFORM (TCR)		
Compliance Period:	1998-01-01 - 1998-01-31	Analytical Value:	0000000.000000000
Violation ID:	98036146	Enforcement ID:	Not Reported
Enforcement Date:	Not Reported	Enf. Action:	Not Reported

C7
SW
1/2 - 1 Mile
Lower

FED USGS **334850111525701**

BASIC WELL DATA

Site Type:	Single well, other than collector or Ranney type		
Year Constructed:	1969	County:	Maricopa
Altitude:	2600.00 ft.	State:	Arizona
Well Depth:	648.00 ft.	Topographic Setting:	Not Reported
Depth to Water Table:	224.00 ft.	Prim. Use of Site:	Withdrawal of water
Date Measured:	Not Reported	Prim. Use of Water:	Domestic

Map ID Direction Distance Elevation	Database	EDR ID Number
D8 **West** **1/2 - 1 Mile** **Lower**	**AZ WELLS**	**AZWR577141**

Registryid:	577141	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	5	Eastwest:	E
Section:	31	Acre160:	NW
Acre40:	SW	Acre10:	SE
Utmx:	417894.2	Utmy:	3742571.9
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	08/31/2000 00:00:00
Driller:	200	Welldepth:	504
Waterlevel:	410	Casingtype:	STEEL - PERFORATED OR SLOTTED CASING
Casingdeep:	504	Casingwide:	6
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drillog:	X
Lastname:	BROWN	Firstname:	ROGER
Company:	Not Reported		
Address:	PO BOX 5006		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported

Driller:	200
Company:	SOUTHLAND WELL DRILLING
Address:	38916 W. SALOME HWY. TONOPAH, AZ 85354

E9 **ENE** **1/2 - 1 Mile** **Higher**	**AZ WELLS**	**AZWR606415**

Registryid:	606415	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	5	Eastwest:	E
Section:	32	Acre160:	NE
Acre40:	NW	Acre10:	NW
Utmx:	420111.9	Utmy:	3743149.5
Welltype:	EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	STOCK
Wateruse2:	Not Reported	Wateruse3:	Not Reported

Approved:	Not Reported	Installed:	Not Reported
Driller:	0	Welldepth:	800
Waterlevel:	315	Casingtype:	STEEL - PERFORATED OR SLOTTED CASING
Casingdeep:	800	Casingwide:	8
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	30	Testrate:	0
Drawdown:	0	Drillog:	Not Reported
Lastname:	DESERT MOUNTAIN,	Firstname:	Not Reported
Company:	Not Reported		
Address:	6263 N SCOTTSDALE RD		
City:	SCOTTSDALE	State:	AZ
Zipcode:	85250	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported AZ

10
ESE
1/2 - 1 Mile
Higher

AZ WELLS **AZWR806337**

Registryid:	806337	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	5	Eastwest:	E
Section:	32	Acre160:	SE
Acre40:	SW	Acre10:	SW
Utmx:	420092.4	Utmy:	3741746.2
Welltype:	NON-EXEMPT	Welluse1:	ABANDONED
Welluse2:	CAPPED	Wateruse1:	NONE
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	12/31/1966 00:00:00
Driller:	7	Welldepth:	0
Waterlevel:	0	Casingtype:	STEEL - PERFORATED OR SLOTTED CASING
Casingdeep:	0	Casingwide:	8
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drillog:	Not Reported
Lastname:	Not Reported	Firstname:	Not Reported
Company:	DESERT SD OWNERS LP		
Address:	8711 E PINNACLE PK RD #D100		
City:	SCOTTSDALE	State:	AZ
Zipcode:	85255	Cancelled:	Y

Driller:	7
Company:	LAYNE CHRISTENSEN COMPANY
Address:	12030 EAST RIGGS ROAD CHANDLER, AZ 85249

Map ID Direction Distance Elevation	Database	EDR ID Number
E11 **NE** **1/2 - 1 Mile** **Higher**	**FED USGS**	**334940111514901**

BASIC WELL DATA

Site Type:	Single well, other than collector or Ranney type		
Year Constructed:	Not Reported	County:	Maricopa
Altitude:	2810.00 ft.	State:	Arizona
Well Depth:	Not Reported	Topographic Setting:	Undulating
Depth to Water Table:	Not Reported	Prim. Use of Site:	Withdrawal of water
Date Measured:	Not Reported	Prim. Use of Water:	Stock

	Database	EDR ID Number
D12 **West** **1/2 - 1 Mile** **Lower**	**AZ WELLS**	**AZWR511364**

Registryid:	511364	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	5	Eastwest:	E
Section:	31	Acre160:	NW
Acre40:	SW	Acre10:	SW
Utmx:	417693.5	Utmy:	3742575.3
Welltype:	NON-SERVICE	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	RECREATION
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	12/21/1978 00:00:00
Driller:	0	Welldepth:	1500
Waterlevel:	259	Casingtype:	Not Reported
Casingdeep:	1500	Casingwide:	12
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drilllog:	N
Lastname:	SONORA DEVL CO # 274,	Firstname:	Not Reported
Company:	Not Reported		
Address:	7373 N SCOTTSDALE RD		
City:	SCOTTSDALE	State:	AZ
Zipcode:	85253	Cancelled:	Y

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported
	AZ

	Database	EDR ID Number
D13 **West** **1/2 - 1 Mile** **Lower**	**AZ WELLS**	**AZWR606413**

Registryid:	606413	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	5	Eastwest:	E
Section:	31	Acre160:	NW
Acre40:	SW	Acre10:	SW
Utmx:	417693.5	Utmy:	3742575.3
Welltype:	SERVICE	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	12/21/1972 00:00:00
Driller:	0	Welldepth:	1500
Waterlevel:	259	Casingtype:	STEEL - PERFORATED OR SLOTTED CASING
Casingdeep:	1500	Casingwide:	12
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	800	Testrate:	800
Drawdown:	0	Drillog:	Not Reported
Lastname:	SCOTTSDALE, CITY OF,	Firstname:	Not Reported
Company:	Not Reported		
Address:	9388 E SAN SALVADOR		
City:	SCOTTSDALE	State:	AZ
Zipcode:	85258	Cancelled:	Not Reported

Registryid:	606413	Pump1984:	0
Pump1985:	6	Pump1986:	556
Pump1987:	555.97	Pump1988:	241.48
Pump1989:	681.2	Pump1990:	635.2
Pump1991:	690.34	Pump1992:	501.82
Pump1993:	128.76	Pump1994:	155
Pump1995:	0	Pump1996:	0
Pump1997:	349.68	Pump1998:	350.16
Pump1999:	468.22	Pumptotal:	5887.94

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported
	AZ

14
West
1/2 - 1 Mile
Lower

FED USGS **334924111532401**

BASIC WELL DATA

Site Type:	Single well, other than collector or Ranney type		
Year Constructed:	1978	County:	Maricopa
Altitude:	2595.00 ft.	State:	Arizona
Well Depth:	1500.00 ft.	Topographic Setting:	Undulating
Depth to Water Table:	Not Reported	Prim. Use of Site:	Unused
Date Measured:	Not Reported	Prim. Use of Water:	Not Reported

F15
WSW
1/2 - 1 Mile
Lower

AZ WELLS **AZWR604782**

Registryid:	604782	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	5	Eastwest:	E
Section:	31	Acre160:	SW
Acre40:	SW	Acre10:	SW
Utmx:	417683.1	Utmy:	3741772.6
Welltype:	NON-EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	MUNICIPAL
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	06/30/1981 00:00:00
Driller:	0	Welldepth:	1165
Waterlevel:	222	Casingtype:	STEEL - PERFORATED OR SLOTTED CASING
Casingdeep:	1165	Casingwide:	16
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	1000	Testrate:	1000
Drawdown:	0	Drillog:	Not Reported
Lastname:	CAREFREE WATER CO,	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 702		
City:	CAREFREE	State:	AZ
Zipcode:	85377	Cancelled:	Not Reported

Registryid:	604782	Pump1984:	377.67
Pump1985:	504.66	Pump1986:	518.28
Pump1987:	684.2	Pump1988:	669.69
Pump1989:	646.91	Pump1990:	304.76
Pump1991:	402.49	Pump1992:	305.2
Pump1993:	343.97	Pump1994:	363.97
Pump1995:	178.53	Pump1996:	145.14
Pump1997:	197.06	Pump1998:	189.03
Pump1999:	55.55	Pumptotal:	6026.85

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported
	AZ

F16
WSW
1/2 - 1 Mile
Lower

AZ WELLS **AZWR087491**

Registryid:	087491	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	5	Eastwest:	E
Section:	31	Acre160:	SW
Acre40:	SW	Acre10:	SW
Utmx:	417683.1	Utmy:	3741772.6
Welltype:	REPLACEMENT WELL IN NEW LOCATION	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	UTILITY (WATER CO)
Wateruse2:	Not Reported	Wateruse3:	Not Reported

Approved:	Not Reported	Installed:	05/25/1981 00:00:00
Driller:	0	Welldepth:	1163
Waterlevel:	222	Casingtype:	STEEL - PERFORATED OR SLOTTED CASING
Casingdeep:	1163	Casingwide:	16
Pumptype:	TURBINE	Pumppower:	ELECTRIC MOTOR 16 - 100 HP
Pumprate:	1000	Testrate:	1000
Drawdown:	38	Drillog:	Not Reported
Lastname:	CAREFREE WATER CO,	Firstname:	Not Reported
Company:	Not Reported		
Address:	PO BOX 702		
City:	CAREFREE	State:	AZ
Zipcode:	85331	Cancelled:	Not Reported

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported AZ

17
WSW
1/2 - 1 Mile
Lower

AZ WELLS **AZWR501421**

Registryid:	501421	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	4	Eastwest:	E
Section:	36	Acre160:	SE
Acre40:	NE	Acre10:	SE
Utmx:	417488.1	Utmy:	3742176.2
Welltype:	REPLACEMENT WELL IN NEW LOCATION	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	INDUSTRIAL
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	Not Reported
Driller:	0	Welldepth:	0
Waterlevel:	0	Casingtype:	Not Reported
Casingdeep:	0	Casingwide:	0
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	0	Testrate:	0
Drawdown:	0	Drillog:	Not Reported
Lastname:	BOULDERS CAREFREE,	Firstname:	Not Reported
Company:	Not Reported		
Address:	6300 YUCCA ROAD		
City:	PARADISE VALLEY	State:	AZ
Zipcode:	85253	Cancelled:	Y

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported AZ

Map ID Direction Distance Elevation		Database	EDR ID Number
G18 **NW** **1/2 - 1 Mile** **Higher**		**AZ WELLS**	**AZWR606414**

Registryid:	606414	Program:	55
County:	MARICOPA	Watershed:	SALT RIVER
Basin:	PHOENIX AMA	Subbasin:	CAREFREE
Township:	6	Northsouth:	N
Range:	5	Eastwest:	E
Section:	30	Acre160:	SW
Acre40:	SW	Acre10:	NE
Utmx:	417911.6	Utmy:	3743576.9
Welltype:	NON-EXEMPT	Welluse1:	WATER PRODUCTION
Welluse2:	Not Reported	Wateruse1:	DOMESTIC
Wateruse2:	Not Reported	Wateruse3:	Not Reported
Approved:	Not Reported	Installed:	05/09/1962 00:00:00
Driller:	0	Welldepth:	1160
Waterlevel:	320	Casingtype:	Not Reported
Casingdeep:	1180	Casingwide:	10
Pumptype:	Not Reported	Pumppower:	Not Reported
Pumprate:	150	Testrate:	150
Drawdown:	0	Drillog:	Not Reported
Lastname:	SCOTTSDALE, CITY OF,	Firstname:	Not Reported
Company:	Not Reported		
Address:	9388 E SAN SALVADOR		
City:	SCOTTSDALE	State:	AZ
Zipcode:	85258	Cancelled:	Not Reported

Registryid:	606414	Pump1984:	179.3
Pump1985:	112.05	Pump1986:	117
Pump1987:	82.79	Pump1988:	63.8
Pump1989:	110.8	Pump1990:	152.6
Pump1991:	144.96	Pump1992:	155.08
Pump1993:	122.46	Pump1994:	44
Pump1995:	0	Pump1996:	0
Pump1997:	0	Pump1998:	0
Pump1999:	0	Pumptotal:	1284.84

Driller:	0
Company:	NO DRILLER SPECIFIED
Address:	Not Reported AZ

G19 **NW** **1/2 - 1 Mile** **Higher**		**FED USGS**	**334953111531301**

BASIC WELL DATA

Site Type:	*Single well, other than collector or Ranney type*		
Year Constructed:	1961	County:	Maricopa
Altitude:	2665.00 ft.	State:	Arizona
Well Depth:	1217.00 ft.	Topographic Setting:	Hilltop
Depth to Water Table:	278.54 ft.	Prim. Use of Site:	Withdrawal of water
Date Measured:	05081962	Prim. Use of Water:	Stock

Map ID Direction Distance Elevation	Database	EDR ID Number
F20 **WSW** **1/2 - 1 Mile** **Lower**	**FED USGS**	**334851111532501**

BASIC WELL DATA

Site Type:	Single well, other than collector or Ranney type		
Year Constructed:	Not Reported	County:	Maricopa
Altitude:	2610.00 ft.	State:	Arizona
Well Depth:	Not Reported	Topographic Setting:	Undulating
Depth to Water Table:	210.20 ft.	Prim. Use of Site:	Withdrawal of water
Date Measured:	11111976	Prim. Use of Water:	Domestic

GEOCHECK®- PHYSICAL SETTING SOURCE MAP FINDINGS
RADON

AREA RADON INFORMATION

Federal EPA Radon Zone for MARICOPA County: 2

Note: Zone 1 indoor average level > 4 pCi/L.
: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
: Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for MARICOPA COUNTY, AZ

Number of sites tested: 695

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	1.697 pCi/L	93%	7%	0%
Living Area - 2nd Floor	3.640 pCi/L	80%	20%	0%
Basement	2.242 pCi/L	79%	21%	0%

PHYSICAL SETTING SOURCE RECORDS SEARCHED

HYDROLOGIC INFORMATION

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 1999 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002 from the U.S. Fish and Wildlife Service.

HYDROGEOLOGIC INFORMATION

AQUIFLOW[R] Information System
Source: EDR proprietary database of groundwater flow information
EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit
Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database
The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the national Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

ADDITIONAL ENVIRONMENTAL RECORD SOURCES

FEDERAL WATER WELLS

PWS: Public Water Systems
Source: EPA/Office of Drinking Water
Telephone: 202-260-2805
Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data
Source: EPA/Office of Drinking Water
Telephone: 202-260-2805
Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: In November 1971 the United States Geological Survey (USGS) implemented a national water resource information tracking system. This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on more than 900,000 wells, springs, and other sources of groundwater.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

STATE RECORDS

Arizona Well Registration Database
Source: Department of Water Resources
Telephone: 602-771-1586
Contains information provided to ADWR's Operations Division by well drillers and/or owners.

RADON

Area Radon Information
Source: USGS
Telephone: 303-202-4210
The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the *EPA/State Residential Radon Survey and the National Residential Radon Survey*. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones
Source: EPA
Telephone: 202-564-9370
Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

OTHER

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

MAP FINDINGS SUMMARY

Database	Target Property	Search Distance (Miles)	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted

AQUIFLOW - see EDR Physical Setting Source Addendum

TP = Target Property

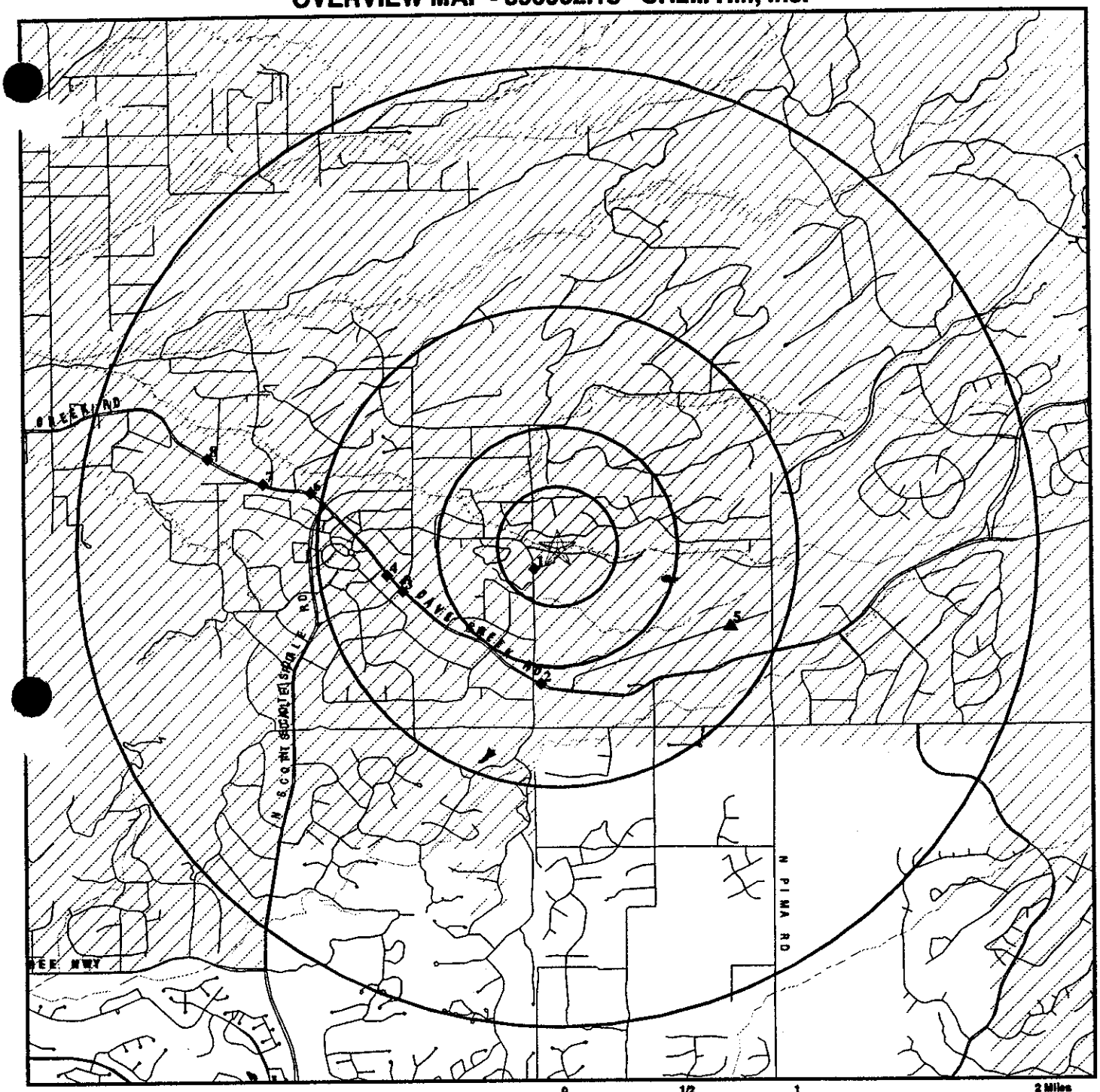
NR = Not Requested at this Search Distance

* Sites may be listed in more than one database

MAP FINDINGS SUMMARY

Database	Target Property	Search Distance (Miles)	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
FEDERAL ASTM STANDARD								
NPL		2.000	0	0	0	0	0	0
Proposed NPL		2.000	0	0	0	0	0	0
CERCLIS		1.500	0	0	0	0	0	0
CERC-NFRAP		1.250	0	0	0	0	0	0
CORRACTS		2.000	0	0	0	0	0	0
RCRIS-TSD		1.500	0	0	0	0	0	0
RCRIS Lg. Quan. Gen.		1.250	0	0	0	0	0	0
RCRIS Sm. Quan. Gen.		1.250	0	0	0	0	1	1
ERNS		1.000	0	0	0	0	NR	0
STATE ASTM STANDARD								
SPL		2.000	0	0	0	0	0	0
State Haz. Waste		2.000	0	0	0	0	0	0
State Landfill		1.500	0	0	0	0	0	0
LUST		1.500	0	0	0	2	0	2
UST		1.250	0	1	0	4	0	5
AZ WQARF		2.000	0	0	0	0	0	0
FEDERAL ASTM SUPPLEMENTAL								
CONSENT		2.000	0	0	0	0	0	0
ROD		2.000	0	0	0	0	0	0
Delisted NPL		2.000	0	0	0	0	0	0
FINDS		1.000	0	0	0	0	NR	0
HMIRS		1.000	0	0	0	0	NR	0
MLTS		1.000	0	0	0	0	NR	0
MINES		1.250	0	0	0	0	0	0
NPL Liens		1.000	0	0	0	0	NR	0
PADS		1.000	0	0	0	0	NR	0
RAATS		1.000	0	0	0	0	NR	0
TRIS		1.000	0	0	0	0	NR	0
TSCA		1.000	0	0	0	0	NR	0
SSTS		1.000	0	0	0	0	NR	0
FTTS		1.000	0	0	0	0	NR	0
STATE OR LOCAL ASTM SUPPLEMENTAL								
AST		1.000	0	0	0	0	NR	0
AZ Spills		1.000	0	0	0	0	NR	0
AZ DOD		1.500	0	0	0	0	0	0
WWFAC		1.500	0	0	0	0	2	2
Aquifer		1.000	0	0	0	0	NR	0
Dry Wells		1.000	0	0	0	0	NR	0
AZ AIRS		1.000	0	0	0	0	NR	0
EDR PROPRIETARY HISTORICAL DATABASES								
Coal Gas		2.000	0	0	0	0	0	0

OVERVIEW MAP - 896962.1s - CH2M Hill, Inc.



- ★ Target Property
- ▲ Sites at elevations higher than or equal to the target property
- ◆ Sites at elevations lower than the target property
- Coal Gasification Sites
- National Priority List Sites
- Landfill Sites
- Power transmission lines
- Oil & Gas pipelines
- 100-year flood zone
- 500-year flood zone
- Dept. of Defense Sites
- Water Quality Assurance Revolving Fund Areas

TARGET PROPERTY:	Carefree Drainage Master Plan	CUSTOMER:	CH2M Hill, Inc.
ADDRESS:	Galloway Wash	CONTACT:	Monique Chaisson
CITY/STATE/ZIP:	Carefree AZ 85377	INQUIRY #:	896962.1s
LAT/LONG:	33.8247 / 111.9068	DATE:	December 12, 2002 1:31 pm

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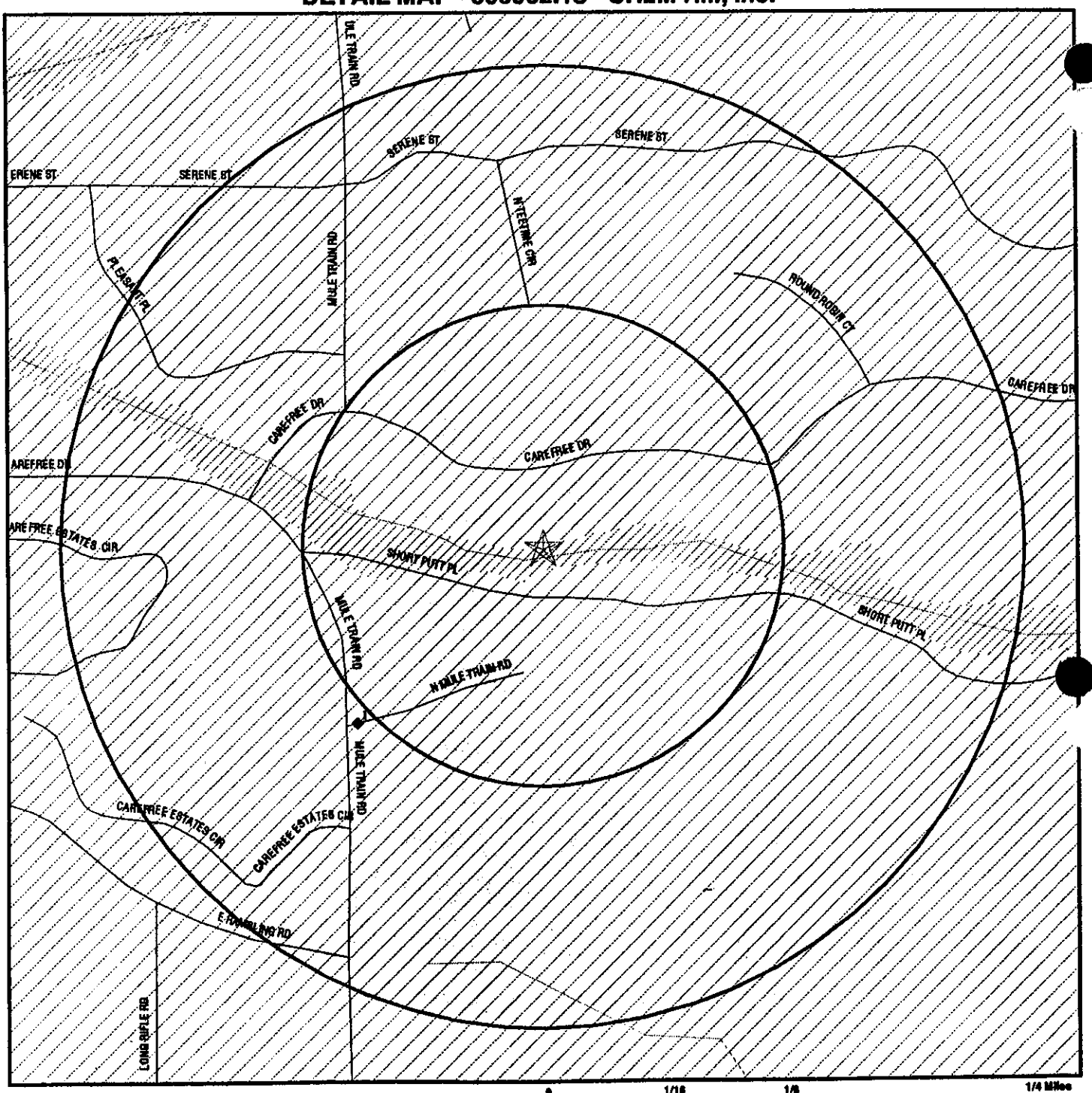
DETAIL MAP - 896962.1s - CH2M Hill, Inc.



- ★ Target Property
- ▲ Sites at elevations higher than or equal to the target property
- ◆ Sites at elevations lower than the target property
- Coal Gasification Sites
- Sensitive Receptors
- National Priority List Sites
- Landfill Sites
- Power transmission lines
- Oil & Gas pipelines
- 100-year flood zone
- 500-year flood zone
- Dept. of Defense Sites
- Water Quality Assurance Revolving Fund Areas

TARGET PROPERTY:	Carefree Drainage Master Plan	CUSTOMER:	CH2M Hill, Inc.
ADDRESS:	Galloway Wash	CONTACT:	Monique Chaisson
CITY/STATE/ZIP:	Carefree AZ 85377	INQUIRY #:	896962.1s
LAT/LONG:	33.8247 / 111.9068	DATE:	December 12, 2002 1:33 pm

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GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

TOPOGRAPHIC INFORMATION

Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, *should contamination exist on the target property*, what downgradient sites might be impacted.

USGS TOPOGRAPHIC MAP ASSOCIATED WITH THIS SITE

Target Property: 2433111-G8 CAVE CREEK, AZ
Source: USGS 7.5 min quad index

GENERAL TOPOGRAPHIC GRADIENT AT TARGET PROPERTY

Target Property: General SW

Source: General Topographic Gradient has been determined from the USGS 1 Degree Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of *close proximity should be field verified.*

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

Target Property County	FEMA Flood Electronic Data
MARICOPA, AZ	YES - refer to the Overview Map and Detail Map

Flood Plain Panel at Target Property: 04013C0809G

Additional Panels in search area: 04013C0850D
04013C0820E

NATIONAL WETLAND INVENTORY

NWI Quad at Target Property	NWI Electronic Data Coverage
NOT AVAILABLE	Not Available

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Site-Specific Hydrogeological Data*:

Search Radius:	2.0 miles
Status:	Not found

AQUIFLOW®

Search Radius: 2.000 Miles.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

MAP ID	LOCATION FROM TP	GENERAL DIRECTION GROUNDWATER FLOW
Not Reported		

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

Era:	Precambrian
System:	Precambrian
Series:	X granitic rocks
Code:	Xg *(decoded above as Era, System & Series)*

GEOLOGIC AGE IDENTIFICATION

Category: Plutonic and Intrusive Rocks

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps. The following information is based on Soil Conservation Service STATSGO data.

* ©1996 Site-specific hydrogeological data gathered by CERCLIS Alerts, Inc., Bainbridge Island, WA. All rights reserved. All of the information and opinions presented are those of the cited EPA report(s), which were completed under a Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS) investigation.

Coal Gas Site Search: No site was found in a search of Real Property Scan's ENVIROHAZ database.

1
SW
1/8-1/4
705 ft.
Lower

DESERT FOREST GOLF CLUB
37207 N MULE TRAIN RD
CAREFREE, AZ 85377

UST
U001156922
N/A

UST:

Facility ID:	0-006085	Tank ID:	1.00000
In Use:	False		
Date Removed:	11/10/1989		
Date Closed:	/ /		
In Use:	False		

2
South
1/2-1
3029 ft.
Lower

SKY RANCH AIRPORT AT CAREFREE
8302 E CAVE CREEK RD
CAREFREE, AZ 85377

LUST
UST
U000737209
N/A

LUST:

Facility ID:	0-005697
Lust Number:	0485.01
Leak Priority:	CLOSED SOIL LVL MEETS TIER1
Notification:	07/06/1988
Date Closed:	06/12/1996

UST:

Facility ID:	0-005697	Tank ID:	1.00000
In Use:	False		
Date Removed:	09/11/1989		
Date Closed:	/ /		
In Use:	False		
Facility ID:	0-005697	Tank ID:	2.00000
In Use:	False		
Date Removed:	09/11/1989		
Date Closed:	/ /		
In Use:	False		
Facility ID:	0-005697	Tank ID:	3.00000
In Use:	True		
Date Removed:	/ /		
Date Closed:	/ /		
In Use:	True		
Facility ID:	0-005697	Tank ID:	4.00000
In Use:	True		
Date Removed:	/ /		
Date Closed:	/ /		
In Use:	True		

3
WSW
1/2-1
3537 ft.
Lower

AVANKIS/CAREFREE SHELL
7201 E CAVE CREEK RD
CAREFREE, AZ 85377

LUST
UST
U003229049
N/A

AVANKIS/CAREFREE SHELL (Continued) — **U003229049**

LUST:

Facility ID:	0-005635
Lust Number:	3835.01
Leak Priority:	CLOSED SOIL LVL MEETS TIER1
Notification:	12/21/1994
Date Closed:	03/31/2000

Facility ID:	0-005635
Lust Number:	3835.02
Leak Priority:	UNDEFINED OR UNKNOWN SOIL CONTAMINATION
Notification:	12/21/1994
Date Closed:	Not reported

UST:

Facility ID:	0-005635	Tank ID:	1.00000
In Use:	True		
Date Removed:	/ /		
Date Closed:	/ /		
In Use:	True		
Facility ID:	0-005635	Tank ID:	2.00000
In Use:	True		
Date Removed:	/ /		
Date Closed:	/ /		
In Use:	True		
Facility ID:	0-005635	Tank ID:	3.00000
In Use:	False		
Date Removed:	12/08/1994		
Date Closed:	/ /		
In Use:	False		
Facility ID:	0-005635	Tank ID:	4.00000
In Use:	True		
Date Removed:	/ /		
Date Closed:	/ /		
In Use:	True		

---

4 West 1/2-1 3797 ft. Lower — **CAVE CREEK MAIN CO #143040**, **7153 CAVE CREEK RD**, **CAVE CREEK, AZ 85331** — **UST** — **U003051765**, **N/A**

UST:

Facility ID:	0-003402	Tank ID:	1.00000
In Use:	False		
Date Removed:	09/01/1990		
Date Closed:	/ /		
In Use:	False		

---

5 ESE 1/2-1 4166 ft. Higher — **SKYRANCH**, **8726 E AUTOPLANE DR**, **CAREFREE, AZ 85377** — **UST** — **U003229074**, **N/A**

UST:

SKYRANCH (Continued) — U003229074

Facility ID:	0-007470	Tank ID:	1.00000
In Use:	False		
Date Removed:	/ /		
Date Closed:	/ /		
In Use:	False		

Facility ID:	0-007470	Tank ID:	2.00000
In Use:	True		
Date Removed:	/ /		
Date Closed:	/ /		
In Use:	True		

---

6 WNW > 1 5540 ft. Lower

PS CLEANERS
6920 E CAVE CREEK ROAD
CAVE CREEK, AZ 85331

RCRIS-SQG 1000174436
FINDS AZD981656143

RCRIS:
Owner: WILLAM & ANGELA DUNSING
(415) 555-1212
EPA ID: AZD981656143
Contact: ENVIRONMENTAL MANAGER
(602) 488-3051
Classification: Small Quantity Generator
Used Oil Recyc: No
TSDF Activities: Not reported
Violation Status: No violations found

FINDS:
Other Pertinent Environmental Activity Identified at Site:
Facility Registry System (FRS)
Resource Conservation and Recovery Act Information system (RCRAINFO)

---

7 WNW > 1 6606 ft. Lower

KWIK STOP CENTER - FOOTHILLS
6812 E. CAVE CREEK ROAD
CAVE CREEK, AZ 85377

WWFAC S102788859
N/A

AZ WWFAC:
Owner Address: Not reported

---

8 WNW > 1 7913 ft. Lower

SAGUARO HILL LANES & LOUNGE
6710 E CAVE CREEK ROAD
CAVE CREEK, AZ 85331

WWFAC S102789795
N/A

AZ WWFAC:
Owner Address: PO Box 1090
Carefree, A Z8533

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
COUNTY	S102987631	POTABLE WATER WELL NO. 289	NORTH OF DYNAMITE BOULEVARD ON	85331	Dry Wells
CAREFREE	1000202304	CAREFREE CLEANERS	36889 N TOM DARLINGTON DR	85377	RCRIS-SQG, FINDS
CAVE CREEK	1001486731	JANSON CLEANERS	29606 N CAVE CREEK RD STE 106	85331	RCRIS-SQG, FINDS
CAVE CREEK	1000351894	A T AND T CO CAVE CREEK	6.2 MI E OF	85331	RCRIS-SQG, FINDS
CAVE CREEK	U001628484	AT&T CAVE CREEK RS	6.5 MI E OF CAVE CREEK BARLETT	85331	UST
CAVE CREEK	S104826745	BLACK MOUNTAIN SHADOWS	6948 E. HORIZON DRIVE	85331	WWFAC
CAVE CREEK	1003878171	CAVE CREEK LDFL	1 1/2 MI W OF CAREFREE HWY	85331	CERC-NFRAP
CAVE CREEK	U003547335	AT&T COMMUNICATIONS	6.2 MILES E OF CAVE CREEK	85331	UST
CAVE CREEK	S102787860	CAVE CREEK, TOWN OF WWTP	5600 E. RANCHO MANANA BLV	85331	Aquifer, WWFAC
SCOTTSDALE	S103277359	CAMP CREEK - TONTO NATIONAL FOREST	40202 NORTH CAVE CREEK RO	85262	WWFAC

Literature Review for the Carefree Drainage Master Plan

LITERATURE REVIEW FOR THE CAREFREE DRAINAGE MASTER PLAN CAREFREE, MARICOPA COUNTY, ARIZONA

Prepared by Thomas E. Jones
Submitted by Lourdes Aguila
Archaeological Consulting Services, Ltd.
ACS Project No. 02-087-01
January 9, 2003

As part of the Carefree Drainage Master Plan, the Flood Control District of Maricopa County plans to install eight drainage crossings and two drainage corridors in the Carefree-Cave Creek area (Figure 1). Implementation of the proposed improvements will involve ground disturbance within a 100-ft-radius of each drainage crossing and along a 50-ft-wide swath on either side of the wash banks at each of the two drainage corridors.

At the request of CH2MHill, Inc., Archaeological Consulting Services, Ltd. (ACS) conducted a literature review of the project area to determine whether any previously recorded cultural resources are located within the project's area of potential effect. Site and project files were checked at the State Historic Preservation Office (SHPO), the Arizona State Museum (ASM), the Arizona Department of Transportation (ADOT), and the AZSite Cultural Resources Database. Archives were examined for historical resources at the Arizona State Archives, General Land Office (GLO) records at the Bureau of Land Management-Arizona State Office, and the Cave Creek Museum. The literature review revealed the proposed crossing/corridor locations have not been examined for cultural resources. Eight archaeological projects have been conducted nearby; at least two archaeological sites and four historical properties are located within 0.25 mi of the review area.

Review Area

The review area consisted of 10 locations—eight drainage crossings and two drainage corridors (Table 1)—situated in portions of Townships 5–6 North and Ranges 4–5 East (Figure 1). The review area included a 0.25-mi buffer around each of the proposed locations.

Table 1. Review Area Summary.

Location Name/No.	Legal Description	Description	Area Previously Surveyed?	Known Cultural Resources*
6	T5N/R4E/§4	Drainage crossing	No	Yes
JEF44	T6N/R4E/§25	Drainage crossing	No	No
JEF52	T6N/R4E/§25	Drainage crossing	No	Yes
JEF35	T6N/R4E/§26	Drainage crossing	No	Yes
190/JEF53	T6N/R4E/§26	Drainage crossing	No	Yes
213	T6N/R4E/§35	Drainage crossing	No	Yes
JEF32	T6N/R4E/§36	Drainage crossing	No	No
Galloway Wash	T6N/R4E/§26, 35, 36	Drainage corridor	No	Yes
Stagecoach Pass Wash Tributary	T6N/R5E/§31	Drainage corridor	No	No

* Within 0.25 mi of review area

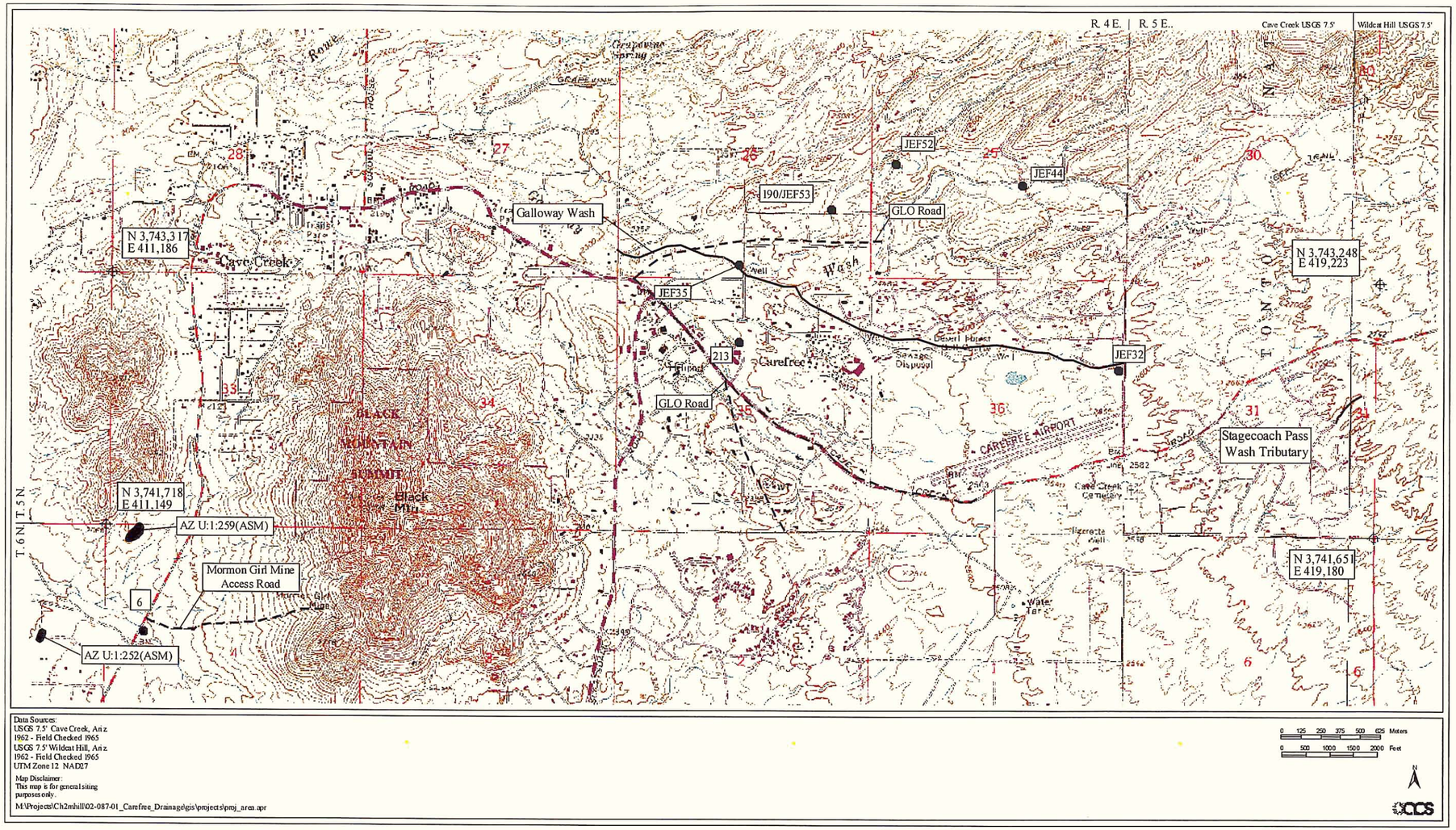

Figure 1. Portion of the USGS 7.5' Cave Creek and Wildcat Hill, Ariz., topographic quadrangles showing the location of the project area and known cultural resources.

Culture History

The review area is part of the Cave Creek desert foothills; the Carefree area is the divide between the Salt and Verde River watersheds. This geographic area is roughly bounded by Pine Mountain, Perry Mesa, and Black Mesa in the north, the Agua Fria River and McDowell Mountains in the west, the Salt River from its confluence with the Verde River to Apache Lake in the south, and by the Mazatzal Mountain range in the east (Hoffman 1996). Although prehistoric sites in the Cave Creek area have yielded Hohokam, Sinagua, and Salado cultural traits (Spoerl and Gumerman 1984; Lindauer 1990), it has been generally accepted that the Lower Verde area lies within the northern periphery of the Hohokam settlement system (Doyel and Elson 1985; Crown 1991; Redman and Minnis 1992). However, recent archaeological investigations at the Bartlett Reservoir indicate that during the Preclassic period, the Lower Verde may have represented a distinct political unit (Hoffman 1996). Because of the limited archaeological investigations in the Lower Verde area, a cultural sequence has yet to be developed. Thus, the Phoenix Basin chronological sequence is used in this summary (Table 2).

Paleoindian Period

The Paleoindian period (10,000–7,500 B.C.) represents the earliest known occupation of North America. Paleoindian lifeways were based on small, nomadic bands that followed megafauna and gathered wild plants. Sites from this period are poorly represented in the Lower Verde area. No Paleoindian sites have been reported near the current review area, although several isolated projectile point fragments of possible Paleoindian affiliation have been identified in the Middle Verde (Hoffman 1996). A Clovis point was documented at AZ T:4:107(ASM), a prehistoric lithic scatter located on Biscuit Flat near Deadman Wash, southwest of Cave Creek (Crownover 1994).

Archaic Period

The Archaic period (8,000 B.C.–A.D. 1), which followed the extinction of megafauna, was characterized by the adaptive strategies of hunter-gatherers to other food sources. The Archaic period has been divided into Early, Middle, and Late; however, Archaic chronological sequences in central Arizona are problematic, as both eastern and western expressions of Archaic traits appear to be present in the Lower Verde (Hoffman 1996). By the end of the Archaic period, populations aggregated into semi-permanent villages and began cultivating maize and harvesting other wild plant resources.

Little evidence of Archaic occupation has been found in the Lower Verde area. Doyel and Elson (1985) hypothesized that sites along the New River might include Archaic components; however, subsequent excavation determined the sites dated to the ceramic period. Archaic period sites have been identified along the Agua Fria River, Skunk Creek, and Cave Creek drainages and near the McDowell Mountains (Lindauer 1990; Redman and Minnis 1992; Wright 2002). In addition, several San Pedro-type projectile points have been found in Paradise Valley and on the slope of McDowell Mountain (RECON 1987). Middle and Late Archaic deposits were uncovered in Paradise Valley (Hackbarth 1998; Phillips et al. 2001). No Archaic sites have been identified near the current review area.

Formative Period

The Early Formative period (A.D.1–700) is associated with the spread of agriculture and pottery manufacture, and the establishment of permanent small communities in upland and riverine locales. A transitional Early Agricultural period has been proposed to bridge the Archaic and Formative traditions (Bruce Phillips, personal communication 2002). However, hunting and the gathering of wild plant resources appear to have remained an integral part of the Early Formative diet.

Recent investigations have augmented the Early Formative record of settlement in the Lower Verde area. Test excavations and reinvestigation of AZ U:5:3(ASU), the Herberger site, identified artifacts from the Vahki to the Sweetwater phase (RECON 1987). Sites near the Salt–Verde River confluence indicate continuous habitation from the late Pioneer through the Classic period (Neily and Kisselburg 1991). AZ

U:1:23(ASU), located at the Cave Creek–Cottonwood Wash confluence, contains Snaketown Incised ceramics, suggesting a late Pioneer period occupation.

Table 2. Some Recent Versions of the Phoenix Basin Cultural Chronology.

Year	Traditional Periods	Alternate Periods	Doyel (1991b)	Dean (1991)	Haury (1976)
1950					
1900					
1850					
1800					
1750		Historic	Blackwater		
1700					
1650					
1600					
1550	Historic	Protohistoric			
1525			Bachi		
1450					
1400			Polvorón		
1350					
1300			Civano	Civano	Civano
1250					
1200			Soho	Soho	
1150					
1100	Classic	Classic	Santan		Soho
1050					
1000				Sacaton	
950	Sedentary		Sacaton		
900				Santa Cruz	Sacaton
850			Santa Cruz		
800			Gila Butte	Gila Butte	
750					
700		Late Formative	Snaketown	Snaketown	Santa Cruz
650					
600			Sweetwater	Sweetwater	
550	Colonial		Estrella	Estrella	Gila Butte
500					
450					
400					
350			Vahki	Vahki	Snaketown
300					Sweetwater
250					
200					
150					
100		Early			
50		Formative	Red Mountain		Estrella
0					
50					
100					
150					
200					
250					
300	Pioneer	Late Archaic	Late Archaic	Red Mountain	Vahki

The Late Formative period (A.D. 700–1100) in the Phoenix Basin is characterized by the construction of complex irrigation systems, increased population growth, and the development of the Hohokam cultural tradition—characterized by the production of red-on-buff decorated ceramics, public architecture, and cremation burials. Village structure grew more formalized, with the establishment of central plazas surrounded by mounds, house clusters, and cemeteries (Gregory 1991; Haury 1976; Wilcox et al. 1981). At this time, the New River area appears to have been settled by Hohokam groups from the Phoenix Basin (e.g., Spoerl and Gumerman 1984). Various reasons have been suggested for this population movement, including reaction to overpopulation of the core areas; however, the cultural similarities and differences observed in sites of the periphery also may be explained by economic influences, such as trade and labor sharing (Hoffman 1996).

Late Formative sites have been documented along the New River, Agua Fria River, Skunk Creek, and Verde River (Hoffman 1996; Macnider and Effland 1989). By approximately A.D. 1000, various site types appear with regularity near the Cave Buttes and Black Mountain areas, including fortified hilltop sites, farmsteads, homesteads, fieldhouses, and agricultural/irrigation loci (Lindauer 1990; Macnider and Effland 1989; Redman and Minnis 1992).

Classic Period

In the Phoenix Basin, settlement patterns, site structure, architecture, and material culture changed in the Classic period (A.D. 1100–1450). By A.D. 1300, many Hohokam characteristics were altered significantly, while some disappeared altogether. More platform mound communities were constructed along the Lower Salt than the Middle Gila (Gregory 1987). Multi-village communities along irrigation systems became common. Large villages incorporated mounds, compounds, plazas, and house clusters. After A.D. 1300, contiguous room structures and multistoried great houses were built.

In the Lower Verde area, the Classic period is characterized by abandonment and resettlement. Sites along the New River and around Bartlett Lake were abandonment by A.D. 1300 (Doyel and Elson 1985; Hoffman 1996; Spoerl and Gumerman 1984). By late Sacaton period (A.D. 1000–1100), fortified sites were present throughout the Lower Verde area, including Cave Creek, suggesting conflict between populations in the core and northern periphery (Hoffman 1996; Spoerl and Gumerman). Classic period sites have been recorded along the Lower Agua Fria River, and at Calderwood Butte (Redman and Minnis 1992).

In the Cave Creek area, several Classic period sites have been identified, including AZ U:1:11, U:1:12, and U:1:19(ASU). By A.D. 1150, however, the focus of settlement appears to have shifted north, to the upper reaches of Cave Creek; sites in this area include small farmsteads, fieldhouses, and agricultural fields. Abandonment of the Cave Creek area may have occurred sometime in A.D.1400 (Lindauer 1990; Macnider and Effland 1989).

Protohistoric Period

Few Protohistoric period sites have been documented in the Cave Creek and the Lower Verde areas. However, the paucity of cultural resources from this period does not indicate the area was void of protohistoric populations. Macnider and Effland (1989) have noted the importance of establishing a chronological framework to determine the cultural relationships between Prehistoric and Protohistoric peoples.

Yavapai and Western Apache groups in the review area were highly mobile; their camps tend to be temporary and difficult to identify archaeologically. The Yavapai may have settled in central Arizona as early as the 1500s (Hoffman 1996; Lindauer 1990). The Western Apache are present in the area by 1800, but the time of their initial settlement is still debated (Spicer 1962). Other Piman-speaking groups also utilized the desert foothills of Cave Creek, building semi-permanent villages along riparian areas (Macnider and Effland 1989). AZ U:1:25(ASM), a rock shelter near the McDowell Mountains, had substantial evidence of Yavapai occupation (Wright 2002). AR-03-12-01-1379 and AR-03-12-01-1449,

rock shelter sites adjacent to the Bartlett Reservoir, contained pictographs and ceramic sherds suggesting Pai occupation (Hoffman 1996); however, no evidence has been found in the Cave Creek area.

Western Apache and Yavapai groups in central Arizona remained isolated from Anglo-European contact until the nineteenth century, with the purchase of the New Mexico territory in 1848 and subsequent survey of the international boundary. Trappers along the Gila River were among the first to encounter American Indian populations of the Salt River Basin and Lower Verde area (Spicer 1962).

Historic Period

In central Arizona, conflict between the Apache and American settlers escalated in 1863, with the discovery of gold in the Bradshaw Mountains, near Prescott. By the following year, discovery of the Vulture Mine southeast of the Bradshaws led speculators to the streams and foothills of the Lower Verde (Carlson 1996; Spicer 1962). In response to the conflict, the military established Fort Whipple in Prescott to protect the area's miners and other Anglo settlers, but despite a government policy of peaceful negotiations, soldiers and settlers embarked on hostile campaigns against the Apache. Retaliation by Apache-Yavapai coalitions throughout central Arizona led to the establishment of Fort McDowell in 1865. Fort McDowell was situated on the bank of the Lower Verde River, adjacent to an Apache trail that ran from the Verde River through Cave Creek and the Bradshaw Mountains. The construction of Fort McDowell was a significant factor in the subsequent settlement and development of Cave Creek and the Salt River Valley; additionally, Anglo settlers now could count on a defensive line of forts stretching throughout the Apache territory, from Prescott to present-day Silver City, New Mexico (Spicer 1962).

In 1870, an old trail between Fort McDowell and Fort Whipple was widened to facilitate a link between the military garrisons. This route, known as the Old Fort McDowell Road, extended northwest through the Cave Creek area, before turning west to the Agua Fria River, and thence north to Fort Whipple; by 1875, an alternate route, the Old New River Road, was built to diverge from the original road at the present site of Cave Creek, skirt the steep terrain of the New River Mountains, and rejoin the older road at the current site of New River (Carlson 1996).

By 1873, the Phoenix settlement, earlier chosen as the Maricopa County seat, was experiencing steady growth. William Hellings—an original settler of Phoenix and an influential miner in the future Cave Creek Mining District—constructed the first Phoenix to Cave Creek Road, which alignment closely followed that of the wash (Carlson 1996). This road was intended to establish a shorter route to Prescott, but although it continued to be used, a second road that extended straight north from Phoenix to New River and beyond, following the old Fort McDowell Road, soon bypassed it. This new route to Prescott was variously known as the Woolsey Trail, Black Canyon Road, or Black Canyon Highway.

The town and region of Cave Creek received its name from the steep bluff overlooking the creek north of the present town location. According to Carlson (1996), the bluff contained a large cave that was plotted on a military map drawn in 1866; this map also showed the Cave Creek drainage. The settlement grew around the Cave Creek Station, constructed in 1877 by Josiah Wood. This structure was a small, crude dwelling located on the bank of Cave Creek near a bubbling spring identified by Colonel Stoneman in 1870. In the 1880 census, Josiah Wood and his wife were listed as the only permanent residents of Cave Creek. Also in that year, Wood established the first Cave Creek post office under the name Overton. The post office was short lived, however, closing down in 1881. In 1890, another post office was opened in the same location. The new post office, called Cavecreek (one word) was in use until 1910 (Carlson 1996; Fireman 1963).

The hills and streams of the Cave Creek area attracted miners as early as 1870, but Apache raids impeded successful mining operations until 1873, when William Rowe staked a claim on Continental Mountain. His most successful claim—the Lion Mine on Gold Hill—sparked a flurry of activity in the Cave Creek region (Carlson 1996). Soon other claims were staked in Continental Mountain, Gold Hill, Black Mountain, Go John Mountain, and Lone Mountain. By 1877, the region was referred to as the Cave Creek Mining District, but official boundaries were never given for it (Fireman 1963). Gold and silver

mining were significant to the area's economy until the beginning of the twentieth century when the importance of the copper market was realized, since the area lacked the rich copper deposits found in other parts of the state (Garrison 1996). By 1910, most of the mines had been abandoned, but several notable mines, including the Mormon Girl Mine, remained open intermittently until at least 1942 (Garrison 1996; Lewis 1919). In addition to mining, the area's economic focus was on cattle ranching. Between 1880 and 1890, properties such as the Cartwright Ranch were established near the Cave Creek Station, but many were subsequently abandoned after the severe droughts of the 1890s.

In 1900, James Houck moved to Cave Creek, purchased the Cave Creek Station, and took over management of the post office. He also set up a stagecoach line between Cave Creek and Phoenix that completed three trips weekly. His largest enterprise, however, was his sheep shearing business, which encouraged the establishment of sheep herds across the Lower Verde and into Paradise Valley (Carlson 1996). For the next decade, sheepherders around Cave Creek drove their stock to Houck's isolated shearing camp; however, after 1908, the federal government's efforts to control overgrazing by issuing grazing allotments forced sheepherders from the Cave Creek area, thus effectively ending Houck's shearing business. James Houck died in 1921. In 1924, the original Cave Creek Station was abandoned with the rerouting of Cave Creek Road.

The residential population of Cave Creek remained small through the first half of the twentieth century. In the 1905–1906 Phoenix City and Maricopa County Directory, Cave Creek boasted 44 residents, but by 1914, after the decline in mining and ranching, the directory listed only 27 residents. However, residents had long recognized the area as a cool retreat from the valley's heat, and soon tourism became the dominant local industry. One of the better-known retreats was the Spur Cross Ranch, opened in 1927. Formerly working ranches became popular tourist destinations as "dude ranches" before shutting down in the mid-1950s (Carlson 1996; Redman and Minnis 1992).

With construction of the Bartlett and Horseshoe Dams in 1928–1935, the area's population increased significantly as workers moved their families to Cave Creek, the closest settlement to the construction sites. Although many of the families moved out after the construction was completed, the reservoirs created new jobs and business opportunities for the community. After World War II, Cave Creek Road was paved, telephones were installed, and people began buying property in the area. Cattle ranching picked up as well. By 1958, 400 people resided in Cave Creek (Carlson 1996). In 1958, the town of Carefree was formed with the acquisition of 2,000 acres for development. Carefree and Cave Creek became incorporated in 1984 and 1986, respectively, to avoid annexation by Scottsdale and Phoenix (Carlson 1996).

Results

Site and project files at SHPO, ASM, ADOT, and the AZSite Cultural Resources Database were checked to determine whether any archaeological work has taken place or cultural resources have been previously recorded within 0.25 mi of the current review area. The research revealed that none of the 10 locations have been examined for cultural resources. Eight projects have been conducted nearby (Table 3). Although the projects identified numerous sites, only two were located within the review area (Table 42).

AZ U:1:252 and U:1:259(ASM) were previously documented by ACS as prehistoric artifact scatters. The National Register eligibility of the sites could not be ascertained from the surface remains; testing was recommended to determine the presence and assess the condition of the subsurface deposits (DeMaagd and Aguila 1997:22). The two sites are located within 0.25 mi of Design Site No. 6 (Figure 1), but do not extend within the current project's area of potential effect.

In addition to the two prehistoric sites, eight historical properties have been identified in the review area (Table 5). Of these, four—the old alignment of the Phoenix to Cave Creek Road, the Mormon Girl Mine access road, the Verde River Road, and the Old Fort McDowell Road—may extend onto the project's area of potential effect (Figure 1). Archival sources consulted by ACS for this portion of the

literature review included historic maps and documents at the Arizona State Archives, GLO plats and land ownership records at the Bureau of Land Management-Arizona State Office, historic maps and archives at the Arizona Department of Mines and Mineral Resources, and archives and public records at the Cave Creek Museum.

Table 3. Summary of Previous Archaeological Research.

Location	Agency No./Project Description	Sites (*)	Reference(s)
T6N/R4E/§36 (NE¼)	ASU 79-037/No data	0	SHPO AZSite
T6N/R4E/§36 (S½SW¼)	ASM 1986-123/State Land Survey	0	Rozen 1986
T6N/R5E/§32 (W½)	ASM 1987-243/North Scottsdale Reconnaissance	15(0)	RECON 1987
T6N/R5E/§32	ASM 1995-90/Desert Troon-Carefree	6(0)	Crownover 1995
T5N/R4E/§4 (NW¼), §5 (NE¼); T6N/R4E/§33 (SW¼)	ASM 1996-461/Canyon Ridge Estates	9(2)	DeMaagd & Aguila 1997
T6N/R4E/§33 (S½)	ASM 1999-238/Stagecoach Pass Survey	0	Stubing 1999
T6N/R5E/§32 (SW¼)	ASM 2000-561/Tolleson Tower Survey	0	AZSite
T6N/R5E/§31 (SE¼NW¼)	ASM 2001-687/Pima & Cave Creek Survey	0	Lundin 1999

*Within 0.25 mi of current review area

Table 4. Summary of Previously Recorded Cultural Resources.

Site Number	Location	Site Type	Eligibility	Reference(s)
AZ U:1:252(ASM)*	T5N/R4E/§5 (NE¼)	Prehistoric artifact scatter	Unknown	DeMaagd & Aguila 1997
AZ U:1:259(ASM)*	T5N/R4E/§4 (NW¼)	Prehistoric artifact scatter	Unknown	DeMaagd & Aguila 1997

* Within 0.25 mi of current review area

Table 5. Historical Resources Summary.

Resource Type	Location	Source(s)
Mormon Girl Mine	T5N/R4E/§3, 4	GLO plats 1915, 1921; GLO MS 2678, 4472, 4473; Carlson 1996
Mormon Girl Mine Access Road*	T5N/R4E/§4	GLO plats 1915, 1921
Irrigation Ditch	T5N/R4E/§5	GLO plats 1915, 1921
Phoenix to Cave Creek Road*	T5N/R4E/§5	GLO plats 1915, 1921
Access road	T5N/R4E/§4, 5	GLO plats 1915, 1921
Access road	T6N/R4E/§25, 26	GLO plats 1915, 1921
Verde River Road*	T6N/R4E/§35	GLO plats 1915, 1921
Old Fort McDowell Road*	T6N/R4E/§26, 35, 36	GLO plats 1915, 1921

* Within 0.25 mi of current review area

Cultural Sensitivity Evaluation

ACS's literature review of 10 locations—eight drainage crossings and two drainage corridors—for proposed improvements associated with the Carefree Drainage Master Plan revealed that the locations have not been examined for cultural resources. Two prehistoric sites that were recommended as potentially eligible for the National Register are located within 0.25 mi of the proposed Design Site No. 6. In addition, eight historical properties have been identified in the review area, of which four—the old alignment of the Phoenix to Cave Creek Road, the Mormon Girl Mine access road, the Verde River Road, and the Old Fort McDowell Road—may extend within the project's area of potential effect. These historical resources have not been evaluated.

All project locations will need to be surveyed for cultural resources prior to construction. All areas of potential affect, such as construction sites, staging areas, and access routes, should be defined before the survey occurs. Should resources be found, avoidance is recommended if at all possible.

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Carefree Drainage Master Plan – Ecological Assessment

Carefree Drainage Master Plan Ecological Assessment

PREPARED FOR: Town of Carefree

PREPARED BY: Ron Van Ommeren/CH2M HILL

DATE: April 10, 2003

Introduction and Methods

An ecological assessment was completed for eight design sites as part of the Carefree Drainage Master Plan (DMP). The purpose of the assessment was to identify and describe ecologically significant areas, which were defined as areas supporting native or natural vegetation. A field evaluation was completed at each site on January 1, 2003, to document habitat types and significant flora and fauna in the area.

Results

All eight design sites occur within the Town of Carefree, Maricopa County, Arizona, at elevations ranging from approximately 2,460 to 2,600 feet above mean sea level. Land uses are a mixture of low-density residential, commercial, and remaining natural areas. The project area is located within the Arizona Upland Subdivision of the Sonoran Desertscrub biome. Natural plant communities are further described as Palo Verde-Mixed Cacti Series and *Ambrosia deltoidea-Cercidium microphyllum*-mixed scrub Association. Table 1 lists plant species noted during field evaluation. Vertebrate wildlife in the project area is typical of this plant community. Large mammals include mule deer (*Odocoileus hemionus*), javelina (*Dicotyles tajacu*), coyote (*Canis latrans*), and gray fox (*Urocyon cinereoargenteus*). Smaller vertebrates include cottontail (*Sylvilagus auduboni*), black-tailed jackrabbit (*Lepus californicus*), rock squirrel (*Spermophilus variegatus*), Harris' antelope ground-squirrel (*Ammospermophilus harrisii*), white-throated woodrat (*Neotoma albigula*), pocket mice (*Perognathus* spp.), field mice (*Peromyscus* spp.), and kangaroo rats (*Dipodomys* spp.). Bird species observed during field evaluation include Cactus Wren, Gila Woodpecker, Gilded Flicker, Phainopepla, Curve-billed Thrasher, Verdin, Costa's Hummingbird, Gambel's Quail, Phainopepla, Mourning Dove, Canyon Towhee, House Finch, Black-tailed Gnatcatcher, Rock Wren, White-crowned Sparrow, Common Raven, European Starling, Northern Mockingbird, and Bushtit. Each site is described specifically below.

TABLE 1.
Plant species observed in the project area.

Common Name	Scientific Name
Trees	
Catclaw acacia	*Acacia greggii*
Foothill palo verde[1]	*Cercidium microphyllum*

TABLE 1.
Plant species observed in the project area.

Common Name	Scientific Name
Blue palo verde[1]	*C. floridum*
Velvet mesquite[1]	*Prosopis velutina*
Ironwood[1]	*Olneya tesota*
Crucifixion thorn	*Canotia holocantha*
SHRUBS	
Desert hackberry	*Celtis pallida*
Desert broom	*Baccharis sarothroides*
Turpentine-brush	*Aplopappus laricifolius*
Giant bursage	*Ambrosia ambrosioides*
Triangle-leaf bursage	*A. deltoidea*
Ratany	*Krameria grayii*
Snakeweed	*Gutierrezia sarothrae*
Goldeneye	*Viguiera deltoidea*
Graythorn	*Ziziphus obtusifolia*
Jojoba	*Simmondsia chinensis*
Creosotebush	*Larrea tridentata*
Thornbush	*Lycium sp.*
Wild tobacco	*Nicotiana trigonophylla*
Desert lavender	*Hyptis emoryi*
Burro-bush	*Hymenoclea monogyra*
Feather-fairy duster	*Calliandra eriophylla*
Sweetbush	*Bebbia juncea*
CACTI AND SUCCULENTS	
Saguaro[1]	*Camegiea gigantea*
Pincushion cactus[1]	*Mammallaria microcarpa*
Hedgehog[1]	*Echinocereus engelmannii*
Buckhorn cholla[1]	*Opuntia acanthocarpa*
Chainfruit cholla[1]	*O. fulgida*
Prickly-pear cactus[1]	*O. engelmannii*
Christmas cholla[1]	*Opuntia leptocaulis*
Barrel cactus[1]	*Ferocactus wislizeni*
Soaptree yucca[1]	*Yucca elata*
Banana yucca[1]	*Y. baccata*
FORBS AND GRASSES	
Desert marigold	*Baileya multiradiata*
Wild buckwheat	*Eriogonum fasciculatum*

TABLE 1.
Plant species observed in the project area.

Common Name	Scientific Name
Purple three-awn	*Aristida purpurea*
Brittle-bush	*Encelia farinosa*
Desert senna	*Cassia covesii*
Telegraph-weed	*Heterotheca subaxillaris*
Russian thistle	*Salsola kali*
Skeleton-weed	*Eriogonum deflexum*
OTHER	
Mistletoe	*Phoradendron californicum*
Ocotillo[1]	*Fouquieria splendens*

[1] Protected by the Arizona Native Plant Law.

Galloway Wash

This site includes Galloway Wash from the Pima Road alignment west to the Town boundary, a distance of approximately 2 miles. The area of potential impact was evaluated as the length of the wash and 50 feet on either side of the wash banks, an area totaling 43.60 acres.

This large ephemeral drainage runs through the Desert Forest Golf Club and private residential areas. The wash and the associated vegetation provide significant wildlife habitat, particularly for native birds. It is also used by coyotes, javelina, and smaller mammals. Evidence of mule deer use was found at the upper end of this reach. Plant species protected by the Arizona Native Plant Law ("protected plants") that occur within 50 feet of the wash banks include ocotillo, foothill and blue palo verde, velvet mesquite, saguaro, buckhorn and chainfruit cholla, hedgehog cactus, prickly-pear cactus, barrel cactus, pincushion cactus, and banana and soaptree yucca. There are approximately 50 saguaros over 8 feet in height within 50 feet of the wash banks, in addition to at least six smaller saguaros. A honeybee hive was found in the north bank of the wash, approximately 600 feet east of the 80th Street alignment (Section 35 and 36 boundary).

Site JEF 32

This site is located at the Galloway Wash crossing of Pima Road. The area of potential impact was evaluated as a 100-foot radius from the wash crossing of the road, an area totaling 0.72 acres. East of Pima Road, the wash remains in largely natural condition. West of the road, the wash bed and banks and the associated vegetation have been subject to scour and erosion. Protected plant species that occur within a 100-foot radius include ocotillo, foothill and blue palo verde, velvet mesquite, buckhorn and chainfruit cholla, hedgehog cactus, prickly-pear cactus, barrel cactus, pincushion cactus, and banana yucca. Most of this vegetation occurs east of the road. There are no saguaros in the 100-foot radius area.

JEF 35

This site occurs where Galloway Wash crosses Tranquil Trail. The area of potential impact was evaluated as a 100-foot radius from the wash crossing of the road, an area totaling 0.72 acres. This area has been disturbed somewhat by construction of this road, scour and erosion downstream of the road, and construction of earthen dikes above the wash banks. Protected plant species that occur within a 100-foot radius include foothill and blue palo verde, velvet mesquite, buckhorn cholla, prickly-pear cactus, saguaro, and banana yucca. Most of this vegetation occurs on the upland side of the dikes. There are approximately six saguaros in the 100-foot radius area.

No. 213

This site occurs near the intersection of Tranquil Trail and Carefree Drive, along a smaller ephemeral tributary south of Galloway Wash. The area of potential impact was evaluated as a 100-foot radius from the wash crossing of the road, an area totaling 0.72 acres. This site falls within a largely residential area. Northwest of the intersection this tributary has been channelized as it flows through an apartment complex. Upstream (southeast) of the intersection, the wash is in relatively natural condition. The area southwest of the intersection remains natural desert. Protected plant species that occur within a 100-foot radius include ocotillo, foothill palo verde, buckhorn cholla, prickly-pear cactus, barrel cactus, hedgehog cactus, pincushion cactus, Christmas cholla, saguaro, and banana yucca. Most of this vegetation occurs on the upland side of the dikes. There are two saguaros in the 100-foot radius area.

JEF 53/190

This site is located where a large ephemeral tributary to Galloway Wash crosses Rising Sun Road, west of 80th Street. The area of potential impact was evaluated as a 100-foot radius from the wash crossing of the road, an area totaling 0.72 acres. This site occurs in a currently undeveloped natural area. Protected plant species that occur within a 100-foot radius include ocotillo, foothill and blue palo verde, buckhorn cholla, barrel cactus, saguaro, and soaptree and banana yucca. There are three saguaros in the 100-foot radius area.

JEF 52

This site occurs upstream of JEF 53/190, where the ephemeral tributary crosses Golden Spur Lane. The area of potential impact was evaluated as a 100-foot radius from the wash crossing of the road, an area totaling 0.72 acres. The area is largely natural except for residences located southeast and northwest of the crossing. The wash has been subject to some scour and erosion immediately downstream of the road. Protected plant species that occur within a 100-foot radius include foothill and blue palo verde, velvet mesquite, barrel cactus, and saguaro. There are seven saguaros in the 100-foot radius area.

JEF 44

This site is located where a second, larger ephemeral tributary to Galloway Wash crosses Sombrero Road. The area of potential impact was evaluated as a 100-foot radius from the wash crossing of the road, an area totaling 0.72 acres. The area is largely natural, except that the wash parallels Cow Track Drive to the north. Protected plant species that occur within a

100-foot radius include ocotillo, foothill and blue palo verde, velvet mesquite, saguaro, and banana yucca. There are no saguaros in the 100-foot radius area.

No. 6

This site is located where Cave Creek Road crosses a large ephemeral drainage just north of River Road. The area of potential impact was evaluated as a 100-foot radius from the wash crossing of the road, an area totaling 0.72 acres. The area evaluated is natural, except for flood control structures (reinforced banks) that have been constructed downstream of the crossing. Residential development occurs immediately upstream and downstream of this area. Protected plant species that occur within a 100-foot radius include foothill and blue palo verde, velvet mesquite, ironwood, buckhorn and chainfruit cholla, Christmas cholla, hedgehog cactus, and saguaro. There are thirteen saguaros in the 100-foot radius area.

Recommendations

- Design alternatives should avoid impacts to natural vegetation to the extent possible. Avoidance of protected native plants is particularly important, especially saguaros, which provide disproportionately high wildlife habitat values. Although not protected by the Arizona Native Plant Law, crucifixion thorn and large shrubs like desert hackberry, graythorn, jojoba, and thornbush provide high resource values for wildlife and should also be avoided. It is recommended that any protected native plants and large shrubs that must be impacted be salvaged onsite. If protected native plants are to be destroyed, the Arizona Department of Agriculture must be notified in writing at least 60 days prior.
- Areas disturbed as a result of construction should be stabilized immediately using a native seed mix.
- Care should be taken during any work conducted along the reach of Galloway Wash east of the 80th Street alignment. Virtually all wild bee colonies in Maricopa County are "Africanized" and will respond aggressively to human presence.

Carefree Drainage Improvements
Permitting Summary

Carefree Drainage Improvements Permitting Summary

PREPARED FOR: Town of Carefree

PREPARED BY: Monique Chaisson/CH2M HILL

DATE: March 6, 2003

Introduction

This Technical Memorandum provides a summary and description of federal, state, and local (Maricopa County and Town of Carefree) permits, approvals, reviews, plans, and similar actions that may be required for construction of drainage improvements in the Town of Carefree, Arizona (Town). The technical memorandum provides a narrative background for each applicable permit program. Table 1 summarizes specific permitting details, such as application fees, contacts, and time frames.

The permits, approvals, reviews, plans, or other similar actions that may be necessary to initiate construction activities for drainage improvements within the Town are:

- Drainage Easements
- Temporary Construction Easement
- Right-of-Way Encroachment Permit
- Earth Moving Permit
- Dust Control Plan
- Floodplain Use Permit
- Clean Water Act (CWA) 402 National Pollutant Discharge Elimination System (NPDES) Stormwater Notice of Intent for Construction Activities
- CWA 402 NPDES Stormwater Notice of Termination of Construction Activities
- CWA 402 Stormwater Pollution Prevention Plan (SWPPP)
- CWA 401 State Water Quality Certification
- Arizona Protected Native Plants and Wood Removal Permit
- Notice of Intent to Clear Land
- CWA 404 Dredge and Fill Permit
- Endangered Species Act (ESA) Clearance
- Cultural Resources Clearance

All of these actions must be completed before the start of construction; therefore, sufficient lead time is required to ensure appropriate permitting of the project.

TABLE 1
Carefree Drainage Improvements – Summary of Required Permits
Flood Control District of Maricopa County

Permit Type	Applicable?	Agency	Regulatory Driver	Contact Information	Permittee	When Required	Agency Processing Timeframe	Application Fees
Town of Carefree Permits								
Drainage Easements	Yes	Town of Carefree and Private Property Owners	Either granted or obtained via condemnation	See list of property owners (Town does **not** hold drainage easements for many properties along Galloway Wash)	Town of Carefree	Prior to start of construction	Significant lead time required	NA
Temporary Construction Easements	Yes	Town of Carefree and Private Property Owners	Either granted or obtained via condemnation	See list of property owners	Town of Carefree	Prior to start of construction	Significant lead time required	NA
Right-of-Way Encroachment Permit	Yes	Town of Carefree, Town Administrator	Chapter 11, Article 11, Section 11-1-1 of Carefree Town Code	Patrick Niel, Streets Coordinator 100 Easy Street, Box 740 Carefree, AZ 85377 480.488.3686	Contractor	Prior to start of construction	2 weeks	None (if it is a Town-sponsored project)
Maricopa County Permits								
Earth Moving Permit and overall compliance with requirements of Rule 310 (additional requirements for soil stabilization, etc.)	Yes, for earth moving activities that impact 0.10 acres or more	Maricopa County Environmental Services Department	Rule 310	Environmental Services 1001 N. Central Ave., Suite 150 Phoenix, AZ 85004 602.506.6010	Contractor	Prior to start of construction	2 weeks	$36 per acre $110 application fee
Dust Control Plan	Completed as part of the Earth Moving Permit	Maricopa County Environmental Services Department	Rule 310	Environmental Services 1001 N. Central Ave., Suite 150 Phoenix, AZ 85004 602.506.6010	Contractor	Required as part of the Earth Moving Permit	NA	NA
Floodplain Use Permit	Yes, for activities within 100-year floodplain	Flood Control District of Maricopa County	Floodplain Regulations for Maricopa County	Flood Control District 2801 W. Durango St. Phoenix, AZ 85009 602.506.1501	Contractor	Prior to start of construction	Varies	$400 - $2,800 depending on complexity of review (other fees may also apply)
State of Arizona Permits								
CWA Section 402 NPDES Stormwater Construction General Permit Notice of Intent	Yes, for construction activities disturbing more than 1 acre (certification of compliance with Endangered Species Act required)	AZ Department of Environmental Quality	CWA Section 402	Office of Water Quality, Federal Permits Unit 1110 W. Washington Phoenix, AZ 85007 602.771.4380	Contractor and/or Town of Carefree	NOI postmarked within 48 hours of start of construction	OK to proceed with construction if agency has not notified; otherwise, within 48 hours. Copy of general permit (in Federal Register) and SWPPP must be onsite.	None
CWA Section 402 NPDES Stormwater Construction General Permit Notice of Termination	Yes, upon completion of construction (reference permit number issued by EPA from NOI submittal)	AZ Department of Environmental Quality	CWA Section 402	Office of Water Quality, Federal Permits Unit 1110 W. Washington Phoenix, AZ 85007 602.771.4380	Contractor and/or Town of Carefree	Upon completion of construction activities	NA	None

TABLE 1
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Flood Control District of Maricopa County

Permit Type	Applicable?	Agency	Regulatory Driver	Contact Information	Permittee	When Required	Agency Processing Timeframe	Application Fees
CWA Section 402 Stormwater Pollution Prevention Plan	Yes, part of Construction NOI	Arizona Department of Environmental Quality	CWA Section 402	Office of Water Quality, Federal Permits Unit 1110 W. Washington Phoenix, AZ 85007 602.771.4380	Prepared by contractor	Prior to start of construction	SWPPP must be maintained on site and must comply with general permit requirements.	NA
CWA Section 401 State Water Quality Certification	Yes, in conjunction with CWA Section 404 Permit	Arizona Department of Environmental Quality	33 U.S.C. §§ 1251-1376	Arizona Department of Environmental Quality 1110 W. Washington St. Phoenix, AZ 85007	Town of Carefree	Prior to start of construction	1 month	None
Arizona Protected Native Plants & Wood Removal Permit	Yes, if protected plants are taken from project site.	Arizona Department of Agriculture	A.R.S. § 3-904	Arizona Department of Agriculture 1688 W. Adams Phoenix, AZ 85004 602.542.7182	Contractor Architect/Engineer has performed plant survey	Prior to removal if protected plants will be removed from the site	Must be processed in person	$5 Permit Tags $4 - $6 per plant Seals $0.10
Notice of Intent to Clear Land	Yes	Arizona Department of Agriculture	A.R.S. § 3-904	Arizona Department of Agriculture 1688 W. Adams Phoenix, AZ 85004 602.542.7182	Contractor	Prior to start of construction	< 1 week or immediately if processed in person	
Federal Permits								
CWA Section 404 Dredge and Fill Permit	Yes	U.S. Army Corps of Engineers (USACE)	33 U.S.C. 1251-1376	Cindy Lester, Section Chief AZ Regulatory Branch U.S. Army Corps of Engineers 3636 N. Central Ave., Suite 760 Phoenix, AZ 85012-1936 602.640.5385	Town of Carefree	Prior to start of construction	Depends on whether a nationwide or individual permit is applicable to the project (ranges from 1 month to 1 year).	Unknown – mitigation may be required.
ESA Clearance	Yes, required as part of obtaining federal permits (NPDES and 404)	Required for NPDES (USEPA) and 404 (USACE)	16 U.S.C. §§ 1531-1543	Lead agency is the one making the permitting decision (USEPA for NPDES and USACE for 404)	Town of Carefree	Prior to start applying for other federal permits	1 week to years if Section 7 consultation required	Unknown – mitigation may be required.
Cultural Resources Clearance	Yes, required as part of obtaining federal permits (NPDES and 404)	Required for NPDES (USEPA) and 404 (USACE)	16 U.S.C. § 470	Lead agency is the one making the permitting decision (USEPA for NPDES and USACE for 404)	Town of Carefree	Prior to start applying for other federal permits	Depends on whether sites are present (1 week to years if NHPA consultation required).	Unknown – mitigation may be required.

A.R.S. = Arizona Revised Statutes
CWA = Clean Water Act
ESA = Endangered Species Act
NOI = Notice of Intent
NHPA = National Historic Preservation Act
NPDES = National Pollutant Discharge Elimination System
SWPPP = Stormwater Pollution Prevention Plan
USACE = U.S. Army Corps of Engineers
USEPA = U. S. Environmental Protection Agency
U.S.C. = United States Code

Permit Requirements

1. Town of Carefree

1.1. Drainage Easements

Based on a conversation with the Town of Carefree Streets Coordinator (Mr. Patrick Niel, January 15, 2003), the Town does not currently hold drainage easements for most of the properties along Galloway Wash and potentially in other areas identified for drainage improvement that are not within the right-of-way, because the property ownership pre-dates incorporation. A title search of affected properties would be required to determine property ownership and whether or not a drainage easement is currently in place. The Town will be required to work with each property owner to obtain an easement grant or pursue a condemnation action before starting work on this project.

1.2. Temporary Construction Easement

In addition to obtaining drainage easements from affected property owners, the Town must obtain temporary construction easements. The boundaries for construction activities should be carefully delineated, as these activities will likely impact more properties than would simply be required to grant drainage easements.

1.3. Right-of-Way Encroachment Permit (Carefree Town Code, Chap. 11, Art. 11, Sec. 11-1-1)

All construction activities taking place within the public right-of-way within the Town must obtain a Right-of-Way Encroachment Permit from the Town Administrator. If the project is Town-sponsored, the project will not be assessed a permit fee.

2. Maricopa County

2.1. Earth Moving Permit (Maricopa County Air Pollution Control Regulations Rule 310 – Fugitive Dust Sources)

Construction activities disturbing the soil within Maricopa County are regulated by the Maricopa County Environmental Services Department. Although regulations require efforts to minimize emissions from soil-disturbing activities, projects that disturb a total surface area greater than 0.1 acre require a permit. A valid permit is required before disturbing the soil. If the project continues for more than 1 year, the permit must be renewed. The permit includes overall compliance with Rule 310, including soil stabilization measures.

2.2. Dust Control Plan

An Earthmoving Permit must contain a Dust Control Plan. Section 3 of the Application for an Earthmoving Permit can be filled out and submitted as the Dust Control Plan or a project-specific Dust Control Plan describing all control measures to be used during the project can be submitted with the Earthmoving Permit.

2.3. Floodplain Use Permit

The Flood Control District of Maricopa County (FCDMC) reviews, inspects, and permits drainage clearance, floodplain use, and grading activities. A floodplain use and grading

permit is required before initiating construction activities within a mapped floodplain (100-year flood hazard area). The larger washes in the project area may fall within a mapped floodplain. A single permit would be issued for all of the impacted crossings. The fee and review times vary depending upon the number of crossings. Public utilities are exempt from fees.

3. State of Arizona

3.1. CWA 402 National Pollutant Discharge Elimination System Stormwater Construction General Permit – Notice of Intent

Under the Construction General Permit, the Arizona Department of Environmental Quality (ADEQ) regulates stormwater discharges from construction sites, including clearing, grading, and excavation activities, if the disturbed land area is 1 acre or more. Construction activities include those contemplated under this project and would include road building; construction of residential houses, office buildings, or industrial buildings; and demolition activities. Application for a Construction General Permit is achieved by completing a simple one-page form called a Notice of Intent (NOI). The NOI must be submitted no later than 48 hours before the start of construction activities. The NOI is a promise by the applicant to comply with the permit conditions for stormwater discharges from construction sites. Any industrial facility or construction site subject to NPDES permitting that discharges stormwater to a municipal storm drain must also notify the operator of that storm drain.

Once the SWPPP is prepared and the NOI is submitted, a waiting period of 48 hours is required before construction activities may proceed. If the applicant is not informed otherwise by ADEQ within this 48-hour period, the applicant may assume permit coverage has been granted. After the 48-hour waiting period, the permittee may implement the SWPPP and begin construction activities. ADEQ will issue a permit number for the project, which must be referenced when submitting a Notice of Termination.

3.2. CWA 402 National Pollutant Discharge Elimination System Stormwater Construction General Permit – Notice of Termination

After the construction project is complete, and the project's disturbed area is stabilized to at least 70 percent of natural background levels, the permittee may submit a Notice of Termination (NOT) to end participation in the NPDES stormwater program. The NOT certifies that specific activities in the SWPPP have been completed and that one of the following conditions is true:

- Final stabilization is complete and temporary erosion and sediment controls have been removed
- All discharges from the construction area have been eliminated
- The operator has changed, and the new operator is responsible for compliance
- The new operator is responsible for submitting an NOI if activities continue

Any industrial facility or construction site subject to NPDES permitting that discharges stormwater to a municipal storm drain must also notify the operator of that storm drain.

3.3. CWA 402 Stormwater Pollution Prevent Plan

Before the NOI is submitted, a Stormwater Pollution Prevention Plan (SWPPP) must be prepared. There is no requirement to submit the SWPPP to the ADEQ. However, the SWPPP can be requested by ADEQ or the U. S. Environmental Protection Agency (USEPA) and should remain at the construction site available for review. The Construction General Permit contains specific requirements for the contents of a SWPPP.

3.4. CWA 401 State Water Quality Certification (33 U.S.C. §§ 1251-1376)

Section 401 of the CWA, the State Water Quality Certification program, requires that states certify compliance of federal permits or licenses with state water quality requirements and other applicable state laws. Under Section 401, states have authority to review any federal permit or license that may result in a discharge to wetlands and other waters under state jurisdiction, to ensure that the actions would be consistent with the state's water quality requirements. Federal permits that do not meet these requirements will not receive a State Water Quality Certification, and thus cannot be issued. Section 401 certification authority is most often used in association with the U. S. Army Corps of Engineers (USACE) permits under Section 404 of the CWA. Other programs include Sections 9 and 10 of the Rivers and Harbors Act and permits or licenses issued under the NPDES or Section 402 of the CWA.

Section 401 certification is administered by the ADEQ. If Nationwide Permits (NWPs) 3, 13, 18, or 33 are used, the State Water Quality Certification is conditionally approved in most instances. (These NWPs are described below in more detail.) Individual certification is required for crossings of "Unique Waters" and most tribal lands. The Carefree Drainage Master Plan (DMP) projects would not affect any waters defined as "Unique Waters."

3.5. Arizona Protected Native Plants and Wood Removal Act (A.R.S. § 3-904)

Many of the plant species present within and adjacent to the project area are protected by the Arizona Native Plant Law. Protected plants occurring within and adjacent to the project area may include, but are not limited to, foothills palo verde, honey mesquite, ironwood, saguaro, ocotillo, cholla, barrel, and pincushion cacti. Protected plants cannot be removed from any lands (public or private) without permission of the owner and a permit from the Arizona Department of Agriculture (Department). Landowners have the right to destroy or remove protected plants growing on their land, but 20 to 60 days prior to the destruction of any protected native plants, landowners are required to notify the Department. In addition, a landowner also has the right to sell or give away any plant growing on the land. However, protected native plants may not be legally possessed, taken, or transported from the growing site without a permit from the Department. The Department provides the permit application forms, lists of protected plants, and tags.

3.6. Notice of Intent to Clear Land (A.R.S. § 3-904)

Prior to destruction of native plants or land clearing activities (including within public rights-of-way), the owner must notify the Department at least 20 to 60 days in advance (time frame depends on the total acreage of the area in question). The statute specified the information required as part of this notification the Department will notify the applicant if the protected native plants must be salvaged and stockpiled.

4. Federal

4.1. CWA 404 Dredge and Fill Permit (33 U.S.C. §§ 1251-1376) and Section 10 of the Rivers and Harbors Act (33 U.S.C. § 403)

Actions involving discharge of fill material into "waters of the United States (U.S.)" require a Section 404 permit under the federal Clean Water Act (CWA). Placing of structures in, under, or above navigable waters is regulated under Section 10 of the Rivers and Harbors Act. The USACE has regulatory jurisdiction over "waters of the U.S." and issues permits under Section 404 of the CWA and Section 10 of the Rivers and Harbors Act, hereinafter referred to as Section 404 and Section 10. Waters of the U.S. include rivers, streams, ephemeral washes, and wetlands.

Permit authorization under Section 404 and Section 10 are typically combined in a single permit application. The USACE issues two types of permits under Section 404 and Section 10: Nationwide Permits (NWPs) and Individual Permits (IPs). The USACE has implemented NWPs to allow specific project activities that have minimal adverse impacts. These permits have specific limitations (i.e., allowable area of impact and restricted types of activities) and are reviewed quickly by the USACE (approximately 45 days). IPs require an analysis of alternatives, and the review period is usually between 6 months and 1 year. If a project does not qualify for an NWP, then an IP application must be submitted to the USACE.

NWPs potentially applicable to the Carefree DMP projects include NWP 3 (Maintenance), NWP 13 (Bank Stabilization), NWP 18 (Minor Discharges), and NWP 33 (Temporary Construction, Access and Dewatering). These permits are briefly summarized below.

4.1.1. NWP 3 - Maintenance

NWP 3, Maintenance, authorizes activities related to:

- The repair, rehabilitation, or replacement of any previously authorized, currently serviceable, structure, or fill, or of any currently serviceable structure or fill authorized by 33 Code of Federal Regulations (C.F.R.) § 330.3, provided that the structure or fill is not to be put to uses differing from those uses specified or contemplated for it in the original permit or the most recently authorized modification. Minor deviations in the structure's configuration or filled area including those due to changes in materials, construction techniques, or current construction codes or safety standards that are necessary to make repair, rehabilitation, or replacement are permitted, provided the adverse environmental effects resulting from such repair, rehabilitation, or replacement are minimal. "Currently serviceable" means useable as is or with some maintenance, but not so degraded as to essentially require reconstruction. NWP 3 authorizes the repair, rehabilitation, or replacement of those structures or fills destroyed or damaged by storms, floods, fire, or other discrete events, provided the repair, rehabilitation, or replacement is commenced, or is under contract to commence, within 2 years of the date of their destruction or damage. In cases of catastrophic events, such as hurricanes or tornadoes, this 2-year limit may be waived by the District Engineer, provided the permittee can demonstrate funding, contract, or other similar delays.
- Discharges of dredged or fill material, including excavation, into all waters of the U.S., to remove accumulated sediments and debris in the vicinity of, and within, existing structures (e.g., bridges, culverted road crossings, water intake structures, etc.) and the

placement of new or additional riprap to protect the structure, provided the permittee notifies the District Engineer in accordance with General Condition 13. The removal of sediment is limited to the minimum necessary to restore the waterway in the immediate vicinity of the structure to the approximate dimensions that existed when the structure was built, but cannot extend further than 200 feet in any direction from the structure. The placement of riprap must be the minimum necessary to protect the structure or to ensure the safety of the structure. All excavated materials must be deposited and retained in an upland area unless otherwise specifically approved by the District Engineer under separate authorization. Any bank stabilization measures not directly associated with the structure will require a separate authorization from the District Engineer.

- Discharges of dredged or fill material, including excavation, into all waters of the U. S., for activities associated with the restoration of upland areas damaged by a storm, flood, or other discrete event, including the construction, placement, or installation of upland protection structures and minor dredging to remove obstructions in a water of the U. S. (uplands lost as a result of a storm, flood, or other discrete event can be replaced without a Section 404 permit provided the uplands are restored to their original pre-event location. This NWP is for the activities in waters of the U. S. associated with the replacement of the uplands). The permittee must notify the District Engineer, in accordance with General Condition 13, within 12 months of the date of the damage and the work must commence, or be under contract to commence, within 2 years of the date of the damage. The permittee should provide evidence, such as a recent topographic survey or photographs, to justify the extent of the proposed restoration. The restoration of the damaged areas cannot exceed the contours, or ordinary high-water mark, that existed before the damage. The District Engineer retains the right to determine the extent of the pre-existing conditions and the extent of any restoration work authorized by this permit. Minor dredging to remove obstructions from the adjacent waterbody is limited to 50 cubic yards below the plane of the ordinary high-water mark, and is limited to the amount necessary to restore the pre-existing bottom contours of the waterbody. The dredging may not be done primarily to obtain fill for any restoration activities. The discharge of dredged or fill material and all related work needed to restore the upland must be part of a single and complete project. This permit cannot be used in conjunction with NWP 18 or NWP 19 to restore damaged upland areas. This permit cannot be used to reclaim historic lands lost, over an extended period, to normal erosion processes.

NWP 3 does not authorize maintenance dredging for the primary purpose of navigation and beach restoration. This permit does not authorize new stream channelization or stream relocation projects. Any work authorized by this permit must not cause more than minimal degradation of water quality, more than minimal changes to the flow characteristics of the stream, or increase flooding (See General Conditions 9 and 21, Sections 10 and 404).
Note: NWP 3 authorizes the repair, rehabilitation, or replacement of any previously authorized structure or fill that does not qualify for the Section 404(f) exemption for maintenance.

4.1.2. NWP 13 – Bank Stabilization

NWP 13 authorizes bank stabilization activities necessary for erosion prevention provided the activity meets all of the following criteria:

- No material is placed in excess of the minimum needed for erosion protection.
- The bank stabilization activity is less than 500 feet in length.
- The activity will not exceed an average of 1 cubic yard per running foot placed along the bank below the plane of the ordinary high-water mark or the high-tide line.
- No material is placed in any special aquatic site, including wetlands.
- No material is of the type, or is placed in any location, or in any manner, to impair surface water flow into or out of any wetland area.
- No material is placed in a manner that will be eroded by normal or expected high flows (properly anchored trees and treetops may be used in low energy areas).
- The activity is part of a single and complete project.

Bank stabilization activities in excess of 500 feet in length or greater than an average of 1 cubic yard per running foot may be authorized if the permittee notifies the District Engineer in accordance with the "Notification" General Condition 13 and the District Engineer determines the activity complies with the other terms and conditions of the NWP and the adverse environmental effects are minimal both individually and cumulatively. This NWP may not be used for the channelization of waters of the U.S. (Sections 10 and 404).

4.1.3. NWP 18 – Minor Discharges

NWP 18 authorizes minor discharges of dredged or fill material into all waters of the U. S. if the activity meets all of the following criteria:

- The quantity of discharged material and the volume of area excavated do not exceed 25 cubic yards below the plane of the ordinary high-water mark or the high-tide line.
- The discharge, including any excavated area, will not cause the loss of more than 1/10-acre of a special aquatic site, including wetlands. For the purposes of this NWP, the acreage limitation includes the filled area and excavated area plus special aquatic sites that are adversely affected by flooding and special aquatic sites that are drained so that they would no longer be a water of the U. S. as a result of the project.
- If the discharge, including any excavated area, exceeds 10 cubic yards below the plane of the ordinary high-water mark or the high-tide line or if the discharge is in a special aquatic site, including wetlands, the permittee notifies the District Engineer in accordance with the "Notification" General Condition. For discharges in special aquatic sites, including wetlands, the notification must also include a delineation of affected special aquatic sites, including wetlands (also see 33 C.F.R. § 330.1(e)).
- The discharge, including all attendant features, both temporary and permanent, is part of a single and complete project and is not placed for the purpose of a stream diversion.

4.1.4. NWP 33 – Temporary Construction, Access, and Dewatering

NWP 33 authorizes temporary structures, work, and discharges, including cofferdams, necessary for construction activities or access fills or dewatering of construction sites; provided that the associated primary activity is authorized by the USACE or the United States Coast Guard (USCG), or for other construction activities not subject to the USACE or USCG regulations. Appropriate measures must be taken to maintain near normal downstream flows and to minimize flooding. Fill must be of materials, and placed in a manner, that will not be eroded by expected high flows. The use of dredged material may be allowed if it is determined by the District Engineer that it will not cause more than minimal adverse effects on aquatic resources. Temporary fill must be entirely removed to upland areas, or dredged material returned to its original location, following completion of the construction activity, and the affected areas must be restored to the pre-project conditions. Cofferdams cannot be used to dewater wetlands or other aquatic areas to change their use. Structures left in place after cofferdams are removed require a Section 10 permit if located in navigable waters of the U. S. (See 33 C.F.R. Part 322). The permittee must notify the District Engineer in accordance with the "Notification" General Condition. The notification must also include a restoration plan of reasonable measures to avoid and minimize adverse effects to aquatic resources. The District Engineer will add Special Conditions, where necessary, to ensure environmental adverse effects are minimal. Such conditions may include limiting the temporary work to the minimum necessary; requiring seasonal restrictions; modifying the restoration plan; and requiring alternative construction methods (e.g. construction mats in wetlands where practicable.).

4.2. Endangered Species Act Clearance (16 U.S.C. §§ 1531-1543)

The purpose of the Endangered Species Act (ESA), as amended, is to conserve threatened and endangered animal and plant species. The U.S. Fish and Wildlife Service (USFWS) administers the ESA. When evaluating federal actions that potentially could affect species protected under the ESA, federal agencies must take into account the requirements of the ESA. Prior to issuance of CWA 402 and CWA 404 permits, agencies are required to confirm that the project will not affect threatened or endangered species or critical habitats. A biological assessment, combined with coordination letters from the USFWS and the Arizona Game and Fish Department (AGFD) are usually the first step in clearing the project area of impacts. These may be the only actions necessary if neither the biological evaluation nor the regulatory agencies identify any potential impacts. If potential impacts are identified, more intensive species-specific surveys and a consultation with the USFWS (Section 7 Consultation) would be required.

The Fish and Wildlife Coordination Act requires consultation with the USFWS and state fish and wildlife agencies when the "waters of any stream or body of water are proposed or authorized, permitted or licensed to be impounded, diverted … or otherwise controlled or modified" by any agency under a federal permit or license. The purpose of the consultation is to prevent the loss of and damage to wildlife resources. This Act requires the lead agency to consult with the USFWS and state wildlife agencies regarding their actions, including issuance of permits.

In addition, the AGFD maintains a list of Wildlife of Special Concern in Arizona (WSCA). These are defined as species whose occurrence in Arizona is or may be in jeopardy, or have known or perceived threats or population declines, as described by the AGFD's listing of

WSCA (in preparation). These species are currently the same as those listed in the Threatened Native Wildlife in Arizona (1988). If wildlife on the WSCA list require relocation during construction (e.g., desert tortoises or gila monsters), then a handling permit from the AGFD would likely be required.

4.3. Cultural Resources Clearance – National Historic Preservation Act (16 U.S.C. § 470)

The National Historic Preservation Act (NHPA) establishes a national policy to preserve for public use historic sites, buildings, and objects of national significance for the inspiration and benefit of the people of the United States. Under Section 106 of the NHPA, the federal agency official is responsible for identifying, evaluating, and taking into account the effects of all undertakings (federally funded or permitted actions or actions on federal land) on historic properties, in association with the procedures set forth in enabling regulations, 36 C.F.R. Part 800.

The Advisory Council on Historic Preservation (ACHP) is ultimately responsible for enforcing the NHPA. However, the State Historic Preservation Officer (SHPO) in each state actually administers NHPA enforcement and the Section 106 compliance process. The lead agency would consult with the SHPO regarding their actions, including issuance of permits. Both the lead agency and the SHPO will comment on compliance measures, if they are necessary.

Appendix B
Carefree Drainage Master Plan Sedimentation Alternative Analysis Level 1 and Level 2

Memorandum JE Fuller/ Hydrology & Geomorphology, Inc.

DATE: May 14, 2002

TO: Tony Bokich, P.E./CH2M HILL

FROM: Jon Fuller, P.E.

RE: Carefree DMP
Task 2.2.3.3 – Sedimentation Alternative Analysis (Level 1)

CC: Doug Williams, A.I.C.P./FCDMC
Geza Kmetty, P.E./FCDMC
Linda Johnson, P.E./CH2M HILL

Introduction

This memorandum summarizes the Level 1 Sedimentation Alternative Analysis prepared for the Carefree DMP. The following issues are summarized:

- Sedimentation impacts at drainage crossings
- Sedimentation and erosion problem areas
- Lateral erosion protection
- Town of Carefree erosion setback policy

According to Task 2.2.3.3 of the scope of services, "evaluation of sedimentation impacts of the Level 1 alternatives shall be limited to qualitative assessments based solely on the conditions observed during the field investigation (Task 2.1.12.2) and geomorphic analysis (Task 2.1.12.3). No new sedimentation or geomorphic analyses shall be conducted by the CONSULTANT for this task." The *Carefree DMP Sedimentation Engineering & Geomorphic Evaluation Technical Memorandum* (JEF, 2002) summarizes the results of data collection, field, and geomorphic evaluation tasks. More detailed analysis of selected alternatives will be provided with the Level 2 evaluation to be prepared under Task 2.3.

Sedimentation Impacts at Drainage Crossings

Sedimentation impacts occurring at the types of drainage crossings observed in the Carefree DMP study area were discussed in detail in Chapter 4 of the *Carefree DMP Sedimentation Engineering & Geomorphic Evaluation Technical Memorandum* (JEF, 2002). As discussed in that memorandum, the hydraulic and geomorphic analyses, as well as the spatial and temporal analyses of the drainage crossings in the Carefree DMP study area, indicate that scour and sedimentation problems are most likely where the natural channel conditions are most disturbed. Crossings that narrow or widen the natural channel tend to induce scour on the downstream side of the crossing, regardless of whether the crossing is at-grade or is a raised bridge or culvert. Simply paving the crossing increases the incidence of downstream scour because changes in channel velocity over the paved section alters the sediment transport capacity of the stream. The

channels in the Carefree DMP study area may be especially susceptible to scour at road crossings due to their steep slope, sandy bed material, and frequent supercritical flow regime. Of the streams evaluated in the study area, Galloway Wash and the Galloway Wash North Branch appear to be the most susceptible to scour at drainage crossings.

Based on the results reported in Chapter 4 of the *Carefree DMP Sedimentation Engineering & Geomorphic Evaluation Technical Memorandum* (JEF, 2002), design guidelines for roadway crossings could be recommended as part of the Level 2 analyses. Design guidelines should include the following elements:

- Acceptable levels of change in the natural channel cross section
- Design and aesthetic standards for downstream scour protection criteria
- Design to prevent flanking or approach/abutment erosion
- Recommended maintenance and inspection practices for scour and aggradation

Sedimentation and Erosion Problem Areas

For the Level 1 evaluation of sedimentation and erosion problem areas, a list of the key sediment and erosion problem areas[1] identified during fieldwork and data collection tasks was assembled. The locations of identified sedimentation and erosion problem areas are shown on Figure 1 and are listed in Table 1.

In addition to existing sedimentation and erosion problems that were observed in the field, there are a number of potential sedimentation and erosion problems that have been created by floodplain encroachment, partial channelization, and other development along the major wash corridors. The highest concentration of sedimentation and erosion problems was observed on Galloway Wash, the stream that has been the most altered by development. The most likely future sedimentation and erosion problems include the following:

- Reflective scour on streams banks opposite rigid bank protection
- Lateral erosion at channel bends and in incised reaches
- Damage to under-designed pedestrian and driveway bridges
- Failure of under-designed bank protection with inadequate toe-down, tie-in to prevent flanking, freeboard, foundation, and structural support
- Long-term degradation and short-term fluctuation of streambed elevations in response to flooding
- Flooding and erosion due to reoccupation of historical overbank flow paths and formation of avulsive channels

Because there have been no known significant floods in the Carefree DMP study area during the past 50 years, it is likely that some sedimentation and erosion problems have

[1] The sedimentation and geomorphic evaluation is limited to the following streams: (1) Galloway Wash, (2) Galloway Wash North Branch, (3) Rowe Wash, (4) Grapevine Wash, and (5) Andora Hills Wash.

not yet developed in response to historical and recent urbanization of the stream corridors and watershed. That is, when a significant flood eventually happens, new sedimentation and erosion problems are likely to develop in the study area. Therefore, areas of likely future sedimentation and erosion problems are also listed in Table 1.

Where the stream corridors have not been altered by development (e.g., Grapevine Wash, Rowe Wash, and upper Galloway Wash North Branch), natural sedimentation processes such as avulsions, lateral channel movement, aggradation, and degradation occur, but are not considered to be "problems." If these stream corridors remain undeveloped, no sedimentation problems should be expected.

Lateral Erosion Protection

Active bank erosion was observed throughout the Carefree DMP study area. Historical channel movement documented by comparison of aerial photographs and maps was reported in the *Carefree DMP Sedimentation Engineering & Geomorphic Evaluation Technical Memorandum* (JEF, 2002 – Exhibit 2-1, Figures 2-6 to 2-9). Where non-structural erosion hazard management is not feasible, erosion protection may be required to protect development. Structural erosion protection measures recommended for evaluation for the Level 2 analysis include the following:

- Rigid bank protection
- Flexible bank protection
- Bioengineered bank protection

Rigid bank protection includes such measures as concrete lining, soil cement (CSA), gunite bank lining, grouted riprap, and block walls. Gunite bank lining and concrete block walls were the most commonly observed bank protection in the Carefree DMP study area. Rigid bank protection typically cannot be revegetated, does not adjust to changing bank or bed conditions, and cannot be easily modified to account for streambed aggradation or degradation, and therefore tends to have a shorter design life than flexible bank protection. Rigid bank protection also has a high visual impact that usually does not blend with the natural character of the wash corridor.

Flexible bank protection includes measures such as riprap, articulated revetment, rock mattresses, geotextiles, and in some cases, gabion baskets. No examples of any flexible bank protection were observed on the major streams in the Carefree DMP study area,[1] although some riprap scour protection has been constructed at several road crossings and storm drain outlets on tributary washes. Flexible bank protection can be revegetated, has

[1] The gabion installation on Galloway Wash North Branch does not appear to be flexible. Other unique aspects of the Galloway Wash North Branch gabion installation will be described in the Level 2 analysis.

Table 1. Carefree DMP
List of Sedimentation and Erosion Problem Areas

River Mile	Location	Problem Description	Priority
Galloway Wash			
4.65	Pima Road	Downstream scour, paved at-grade crossing, sediment deposition on road, sedimentation during irrigation tailwater (?) runoff from development upstream of Pima Road	High
4.60	Residence (Pruett), right bank	Potential reflective scour on left bank Home in former avulsive channel path, flow split around home Home outside 100-year floodplain per most recent FIS modeling	Medium
4.55	Residence, left bank	Gunite bank protection – undercutting and flanking	Medium
4.43	Residence, right bank	Home above cut bank, no setback, no erosion protection	High
4.15	Golf course, left bank	Grass lined bank – slumping failures Timber pole bank protection – flanking, scour	Low
3.65	Tennis club, left bank	Lateral bank erosion, cutbanks, outside of bend	Low
3.57	Well, left bank	Earthen berm of loose sand vulnerable to erosion	Low
3.55	Carefree Drive	Paved at-grade crossing, upstream deposition, minor scour downstream	Low
3.51	Footbridge reach	Aggradation reported by resident, increases floodplain elevation	Medium
3.37	Dream St. bridge reach	Several headcuts progressing upstream of bridge, downstream scour Channel excavation oversteepened, devegetated, destabilized banks Bridge capacity less than 100-year – possible overtopping erosion hazards	Medium
3.30	Residence, left bank	Home within Level 1 setback near cutbanks	Medium
3.1-3.3	Rocking Chair Rd., residences	Homes built in former avulsion area, near aggrading reach	Medium
2.87	Downstream of Tranquil Ln.	Unprotected earthen berm blocks former active braid Large headcut and active bank erosion on left bank, vertical cut banks	Low High
2.66	Residence, left bank	Home located in former avulsive channel path Vertical block wall bank protection with downstream flanking and erosion undercutting bank vegetation	Medium
2.6	Residence, right bank	Home located in former active channel braid, unprotected earthen berm blocks flow into former braid, home encroaches natural floodplain	Medium
2.51	Scopa Trail at-grade crossing	Downstream scour, undercutting road section	Medium
2.3	Upstream Scopa Trail, left bank	Block retaining wall flanking on upstream end	Medium
2.28	Galloway Dr culverts	Overwidened cross section, sediment deposition in fringe cells	Medium
	Entire stream	Many homes within SS 5-96 Level 1 setback (33-59 ft.), subject to erosion Long-term degradation during large floods Lateral bank erosion during large floods	Medium

Table 1. Carefree DMP
List of Sedimentation and Erosion Problem Areas

River Mile	Location	Problem Description	Priority
Galloway Wash North Branch			
0.48	Residence, right bank	Unstable, unvegetated slope above gabion bank protection *Flanking of downstream end of gabion baskets	Medium
0.52	Paint Pony Dr. at-grade crossing	Downstream scour	Medium
1.00	Cow Track Dr. bank protection	Undercutting of grouted riprap along road embankment	Medium
0.5-1.6	Upstream of Cow Track Dr. at-grade crossing	Braided, avulsive channel pattern occupies entire floodplain	Low
	Entire stream	Long-term degradation during large floods Lateral bank erosion during large floods Channel avulsions during large floods	Low
Andora Hills Wash			
2.76	Holiday Ln. at-grade crossing	Downstream scour Upstream deposition	Low
2.66	Lazy Burro Rd. bridge	Undersized bridge, *scour from overtopping & flanking	Medium
2.31	Driveway crossing upstream of Town limit	Downstream scour Ponding upstream	Low
Grapevine Wash			
2.65	Montezuma Rd. at-grade crossing	Unpaved crossing, deposition in floodplain	Low
	Entire stream	Low floodplain with high avulsion potential, active braiding Floodplain development should be avoided Localized bank erosion, long-term degradation, and avulsions during floods	Low
Rowe Wash			
	Entire stream	Low floodplain with high avulsion potential, active braiding Floodplain development should be avoided Localized bank erosion, long-term degradation, and avulsions during floods	Low

See JEF, 2002 Table 4-1 and Exhibit 4-1 for an index of road crossing sedimentation problems.
See JEF, 2002 Exhibit 2-1 for a plot of historical channel positions and lateral channel movement.

the ability to adjust to slight changes bank or bed conditions without a loss in function, and generally can be modified to account for streambed aggradation or degradation. Flexible bank protection can be constructed or screened to blend with the natural character of the stream corridor.

No examples of bioengineering or non-traditional forms of bank protection were observed in the Carefree DMP study area. Field observations indicate that natural bank vegetation is somewhat limited in the study area, and appears to be subject to failure due to undercutting and long-term channel degradation. Bioengineering techniques generally require a reliable water supply (natural or irrigation), and do not provide the same high level of protection as traditional engineering bank protection measures. Therefore, bioengineering techniques are most appropriate where the consequences of failure are low and regular maintenance and inspection are assured.

Town of Carefree Erosion Setback Policy

According to Erich Korsten, Carefree Town Engineer, the Town of Carefree uses the Maricopa County erosion setback policy, although in the past the Town used the City of Tucson erosion setback methodology. Maricopa County uses Arizona Department of Water Resources (ADWR) State Standard 5-96 to determine erosion setbacks. ADWR has adopted state Standards for floodplain management as the minimum required regulatory policy in the State of Arizona. State Standard 5-96 (ADWR, 1996), which was adopted in 1996, describes a three-level methodology for estimating an erosion setback to account for lateral instability.

The Level 1 erosion setback methodology has the following limitations when applied in the Carefree DMP study area:

1. Historic channel movement. According to the SS 5-96 documentation, the Level 1 methodology is not to be used for streams where "massive shifting" has been observed in the past. No definition of "massive shifting" is provided in the State Standard. In general, where historical channel position data are available, a better estimate of erosion hazard can be developed from the historical data than from the Level 1 methodology. Evaluation of historical aerial photographs of the Carefree DMP study indicates that up to several hundred feet of channel movement has occurred on some streams in the study area, which may qualify as "massive" and prevent use of the Level 1 methodology on streams such as Galloway Wash, Galloway Wash North Branch, Rowe Wash, and Grapevine Wash.
2. Human impacts. The Level 1 methodology is not to be used for streams where local mining, channelization or other modifications could alter the anticipated flow direction. In general, streams for which erosion hazards are a concern have been modified by human impacts. Historical or modern grazing, land use changes, or water diversions have impacted the streams in the Carefree DMP study area, like almost all streams in Arizona.

3. Top of bank. No definition of the "top of bank" or description of how to identify the top of bank is provided in the State Standard. It is assumed that the top of bank refers to the primary bank of the main channel, rather than to the bank associated with the margin of the 100-year floodplain. In the Carefree DMP study area, the top of bank is often coincident with the margin of the 100-year floodplain. The geomorphic analysis suggests that, at minimum, all of the 100-year floodplain should be considered erosion prone.
4. Aggradation. The methodology is not recommended for reaches undergoing a significant degree of channel filling (aggradation). No guidelines are provided in the SS 5-96 documentation on how to determine whether an aggrading condition exists. A similar restriction should be applied for streams undergoing significant degradation, with guidelines on how to recognize this condition. Historical data indicate that both aggradation and degradation have occurred on the streams in the Carefree DMP study area.
5. Future conditions. The setback regression equations are based on the existing condition, rather than on future condition, 100-year discharges. Reliance on existing condition hydrology sets up a scenario where the setbacks will be inadequate in the future. Therefore, it is recommended that where the Level 1 methodology is applied the future condition 100-year discharges be used in the Level 1 methodology.
6. Setback distance. Field and historical evidence indicates that in many cases, the Level 1 setbacks are not conservative, contrary to the stated policy of the Level 1 approaches for other State Standards.
7. Unique site conditions. The results of the Level 1 methodology do not consider unique soil conditions or other geomorphic features, and hence could significantly underestimate or overestimate the actual erosion hazard.

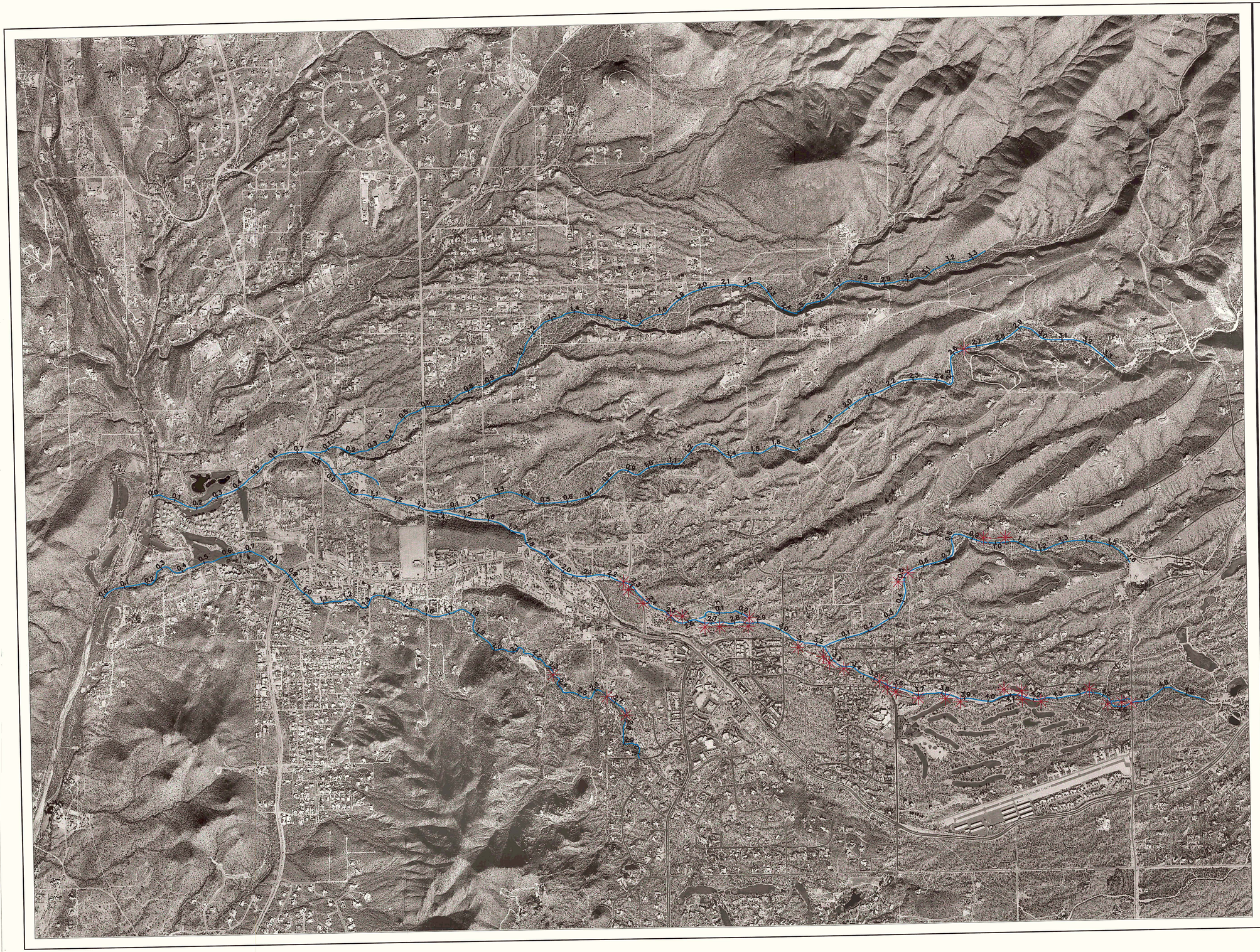
The main weakness of the Level 2 methodology for State Standard 5-96 is that it does not include a procedure for estimating an erosion setback. Other limitations include the lack of consideration of variability in erosivity due to stratified, cohesive, or saturated bank materials. The Level 3 methodology is not defined in the State Standard, nor are useful references provided from which the reader could identify such methodologies.

In summary, the erosion setback methodology used by the Town has some significant limitations, but reflects the minimum standard for floodplain management established by the State of Arizona and the standard currently used by the Flood Control District of Maricopa County. Sufficient data have been collected for the major streams in the Carefree DMP study area from which site-specific erosion setbacks could be established as part of a Level 2 or Level 3 alternative analysis.

Conclusions

Sedimentation and erosion problems are clustered around the most highly urbanized stream segments in the Carefree DMP study area. Where development has altered the natural channel and floodplain characteristics, natural processes of channel movement, degradation, aggradation, and sediment transport impact the long-term stability of

constructed features. Therefore, Level 2 sedimentation analyses should focus on minimizing or eliminating future modifications of the floodplain, and developing design guidelines to reduce the impact of new construction on the floodplain.



CAREFREE DRAINAGE MASTER PLAN

Legend

Thalweg

Stream Station

Sedimentation and Erosion Problem Area

Reach with Sedimentation and Erosion Problem

N

SCALE

1000 0 500 1000 2000

(IN FEET)
1 inch = 1000 ft.

Figure 1
Level 1 Sedimentation Analysis

JE FULLER
HYDROLOGY & GEOMORPHOLOGY, INC

In conjunction with:

CH2MHILL

Flood Control District of Maricopa County

Memorandum JE Fuller/ Hydrology & Geomorphology, Inc.

DATE: January 27, 2003

TO: Linda Johnson, P.E./CH2M HILL

FROM: Jon Fuller, P.E.

RE: Carefree Drainage Master Plan
Task 2.3.2.1 – Sedimentation Alternative Analysis

CC: Marilyn DeRosa, R.G./FCDMC
Tony Bokich, P.E./CH2M HILL

Registered Professional Engineer (Civil) CERTIFICATE NO. 26846 JONATHAN E. FULLER Date Signed 1-27-03 ARIZONA, U. S. A.

Introduction

The Carefree Drainage Master Plan (DMP) is a flood control planning study of major watersheds draining to the Town of Carefree. A sedimentation engineering and geomorphic analysis was included in the DMP to evaluate erosion and sedimentation patterns and characteristics within the Town of Carefree. The primary objectives of the sedimentation analysis were to evaluate potential sedimentation impacts of the preferred alternative for seven road crossings, recommend modifications to the engineering design of the preferred alternative, address sedimentation impacts, and provide general design guidelines for improvements within stream corridors in the Carefree DMP study area.

Additional information on sedimentation impacts in the study area is provided in the following documents previously submitted for this project:

- Carefree DMP Sedimentation Engineering & Geomorphic Evaluation Technical Memorandum. Memorandum to Geza Kmetty, P.E./FCDMC from Jon Fuller, P.E., dated February 12, 2002.
- Level 1 Sedimentation Alternative Analysis. Memorandum to Tony Bokich, P.E./CH2M HILL from Jon Fuller, P.E., dated May 8, 2002.

This sedimentation analysis was performed by JE Fuller/ Hydrology & Geomorphology, Inc. (JEF) on behalf of CH2M HILL under Tasks 2.3.2.1 and 2.3.2.2 of contract FCD 2000C037 with the Flood Control District of Maricopa County (District).

General Design Guidelines

General sedimentation engineering design guidelines for development scenarios likely to occur in the Carefree DMP study area were proposed for inclusion in the Carefree DMP recommended plan. The following development scenarios are discussed below:

- Floodplain Encroachment
- Channelization
- Roadway Crossings
- Utility Crossings

In addition, design of typical structural flood control solutions for sedimentation problems is discussed.

Floodplain Encroachment. Floodplain encroachment is defined as any development in the 100-year floodplain that alters the natural hydraulic conditions of a stream. Floodplain encroachment is commonly known to have the following effects:

- Velocity. Encroachment generally increases channel and overbank velocities. Because velocity is exponentially related to sediment transport rate and erosion potential, higher velocities generally cause increased scour and lateral erosion rates.
- Flow Depth. Encroachment increases the flow depth by reducing the channel and floodplain area available for conveyance. Increased depth results in higher risk of avulsions, greater scour depths, and increased erosive force on the channel banks. In addition, velocity generally increases with depth.
- Discharge. Encroachment decreases the area available for storage of flood waters on the floodplain, resulting in decreased attenuation and increased peak discharges downstream. Increased discharge is directly related to increased flow depths and velocities. Therefore, increased peak discharges are directly related to increased sediment transport rates and erosion.
- Design Standard. Development in encroached areas is typically designed to a 100-year standard. Therefore, damage will occur to development and/or flood control structures in encroached areas at flow rates greater than those of the 100-year event.
- Degree of Encroachment. The greater the degree of encroachment of the floodplain and main channel, the greater the impact on channel stability. For example, encroachment that leaves the 10-year floodplain unchanged will have less impact on channel stability than encroachment that modifies the 2-year floodplain.

For most reaches of the major watercourses in the Carefree DMP study area, the floodplain and floodway are coincident. The coincident floodplain/floodway is due to the channel and floodplain geometry relative to the shallow canyon geology, as well as to the floodway modeling techniques used for the floodplain delineation studies. Therefore, in reaches where the floodway and floodplain are coincident, it is unlikely that any future floodplain encroachment will occur, except where public infrastructure crosses the floodplain. However, because the regulatory floodplains were delineated after much of the study area was developed, much of the existing development near the stream corridors occurred in areas that were part of the historical floodplain.

Recommendation. Where floodway fringe areas exist in the Carefree DMP study area, floodplain encroachment should be avoided except where it meets the low-impact criteria defined below. Encroachment that exceeds the low-impact criteria should be allowed only where it can be demonstrated that no long-term or short-term offsite impacts to channel stability will occur, the encroachment is adequately protected from erosion and flooding, and a long-term maintenance and inspection program is adopted.

Channelization. Channelization is defined as construction of an engineered channel with bank protection and grade control structures, or any other human modification of the natural channel geometry. Channelization is generally known to have the following impacts on channel stability:

- Velocity. Channelization generally increases channel velocities. Velocity is exponentially related to sediment transport rate and erosion potential.
- Depth. Channelization increases the flow depth by eliminating floodplain area available for conveyance. Increased depths result in greater scour depths and higher velocities.
- Discharge. Channelization eliminates the area available for storage of flood waters on the floodplain, resulting in decreased attenuation and increased peak discharges downstream. Increased peak discharges are directly related to increased sediment transport rates and erosion.
- Design Standard. Engineered flood control channels are typically designed to a 100-year standard. Therefore, damage may occur to development adjacent to a 100-year channel (or to the channelization itself) if flow rates greater than the 100-year event occur. If design discharges change due to watershed changes or revisions to hydrologic modeling standards, retrofit solutions are required to maintain the same standard of protection.
- Design Life. Engineered structures have a limited design life, and require regular maintenance and inspection and eventual replacement.
- Equilibrium Slope. Because of the increase in discharge, velocity, and depth, the stable slope is generally flatter than the existing channel slope, which will cause long-term scour and require grade control to prevent undercutting of bank protection.
- Habitat. Channelization typically eliminates most of the natural floodplain and stream bank habitat, and requires mitigation measures.
- Sediment Supply. Bank erosion is an important source of sediment supply for the streams in the study area. Construction of bank protection eliminates this source of sediment, increasing the likelihood of erosion of adjacent and downstream reaches.
- Downstream Impacts. Excessive instability should be expected at the outlet of a channelized reach due to the changes in velocity, sediment supply, and discharge. Depending on the channel geometry, the expected response can range from lateral erosion and scour to sediment deposition and overbank flooding.

Recommendation. Channelization is not recommended as a development alternative in the Carefree DMP study area. Channelization should be allowed only where it can be demonstrated that no long-term or short-term offsite impacts to channel stability will occur, that downstream reaches are adequately protected from erosion and flooding, and that a long-term maintenance and inspection program is adopted.

Roadway Crossings. Roadway crossings of watercourses can be constructed at-grade (dip sections), or with culverts or bridges. The sedimentation and geomorphic impacts of road crossings in the Carefree DMP study area were discussed in Chapter 4 of the *Carefree DMP Sedimentation Engineering & Geomorphic Evaluation Technical*

Memorandum (JEF, 2002). The impacts of each crossing type on channel stability are summarized in the following paragraphs.

At-Grade Crossings. Well-designed at-grade crossings typically have only minimal or localized impacts on channel stability. More commonly, the streams impact the at-grade crossing, rather than vice-versa. Flow over the at-grade crossing frequently erodes the pavement and subgrade, deposits sediment in the road section, and disrupts traffic flow. Channel stability impacts commonly observed near at-grade crossings include the following:

- Scour Hole. A scour hole often forms on the downstream side of an at-grade crossing due to acceleration of flow over the hydraulically smooth pavement surface, increased turbulence as flow transitions back to the natural channel bed, and construction of a flat road cross section on a sloped streambed. In most cases, formation of a scour hole does not impact stream reaches located far from the at-grade crossing.
- Aggradation. If the at-grade crossing is constructed at an elevation slightly above the natural channel bed, deposition will occur upstream of the crossing. Deposition leads to expansion of the floodplain, and may increase the risk of avulsions and accelerate formation of the downstream scour hole.
- Road Maintenance Practices. During post-flood road cleanup, road maintenance crews often dump sediment that was deposited in the road section on the upstream side of the crossing, forming a small dam that may divert flow, induce further sedimentation, or simply be redeposited in the road section during the next flow event.

Culverts. The impacts of culvert crossings are primarily a function of their size. Culverts that have openings similar to the natural width and depth of the main channel pass the more frequent floods without impacting the natural flow conditions. Undersized culverts and culverts that create headwater ponding have impacts similar to those of on-line detention basins. The impacts of undersized culverts on channel stability include the following:

- Sediment Deposition. Much of the stream's sediment load will be deposited in the headwater pool at the culvert inlet. The volume of sediment deposited depends on the culvert capacity relative to the discharge, the duration of ponding condition, the geometry of the ponding area, and the size of the sediment in transport. Sediment deposition decreases channel (and culvert) capacity, increases the potential for overbank flooding and avulsions, and requires maintenance to restore natural conditions.
- Floodplain Encroachment. A culvert is a form of floodplain encroachment, with the same types of encroachment impacts described above.
- Scour Hole. A scour hole may form at the culvert outlet due to accelerated velocity through the culvert, discharge of sediment-deprived water downstream of the undersized crossing, and turbulence at the culvert/natural channel interface.

- Long-Term Degradation. Where a significant percentage of the sediment load is deposited upstream of a culvert due to headwater ponding, discharge of clear water may result in degradation downstream until the channel slope adjusts to the new sediment supply.

Bridges. Bridges that span the floodplain typically have no measurable impact on channel stability, as evidenced by the channel conditions observed at the Beardsley Canal flumes over Caterpillar Tank Wash and Twin Buttes Wash. Bridges with narrow openings function like culverts, and have the impacts on channel stability described above.

Recommendations. Based on their likely impacts on channel stability, the following guidelines for roadway crossing design are recommended for the major watercourses in the Carefree DMP study area:

- Bridges are preferable to culverts. Bridges typically have less impact on channel stability than culverts due to the wider opening and decreased likelihood of headwater ponding.
- Culvert span (width) should be as wide as the main channel (top of left bank to top of right bank). Culverts that do not obstruct the main channel will have less frequent impacts on channel stability than culverts that block the main channel.
- Culvert rise (height) should be as high as the average main channel bank height. Culverts that do not obstruct the main channel will have less frequent impacts on channel stability.
- Where braided or multiple channels exist, relief structures should be provided to maintain overbank flow paths, preserve overbank conveyance, and prevent floodplain sedimentation.
- Roadway crossings should be regularly maintained and inspected to identify potential problems and impacts to channel stability, and to assure structure performance.
- To prevent formation of scour holes or ponding areas, erosion protection should be provided where roadway runoff directly enters the stream channel.

Utility Crossings. Utility crossings, if properly constructed, have no inherent impact on channel stability since they are typically buried beneath the channel or extended overhead. Direct impacts on channel stability can occur during utility construction due to disturbance of bank and floodplain vegetation. Where vegetation is removed, the underlying soils are more vulnerable to erosion and scour. If floods occur before the vegetation is reestablished, erosion of the construction alignment may occur and initiate erosion of adjacent channel reaches.

Recommendations. The following guidelines for utility construction in the floodplain and erosion hazard zone are recommended:

- Bank and floodplain vegetation removed or damaged during construction should be replaced immediately. Irrigation, inspection and maintenance may be required to assure survival of the replacement vegetation.
- Underground utilities should be buried below the 100-year main channel general scour depth plus the long-term scour depth. Utility lines have been damaged due to exposure by long-term scour on numerous streams in Arizona.
- Where the potential for lateral movement exists, underground utilities should be buried at the same depth as in the main channel, to prevent exposure after movement of the main channel.
- Support structures for overhead utilities should not be located within the floodplain or erosion hazard zone, wherever possible. Where the length of the span requires that support structures be constructed in the erosion hazard zone or floodway fringe, the structures should be designed using the 100-year general scour depth plus the long-term scour depth. No structures should be placed in the main channel or floodway.

Typical Structural Flood Control Designs. Design standards for typical structural flood control structures that address sedimentation concerns are provided in the *Maricopa County Drainage Design Manual Volume II – Hydraulics* (District, 1991) and are, therefore, not repeated here. Typical flood control structures that address sedimentation concerns include the following:

- Engineered Bank Protection
- Sedimentation Basins
- Sediment Traps
- Grade Control Structures
- Cutoff Walls

The types of materials typically used for full structural flood control measures include concrete, soil cement, and various forms of large diameter rock products.

Best Management Practices for Sedimentation & Erosion. Floodplain development will negatively impact the stability of the watercourses in the Carefree DMP study area. Negative impacts will include increased lateral erosion rates, long-term degradation and scour, increased downstream flood peaks and sedimentation, and loss of floodplain function and habitat. For the Carefree DMP, non-structural and low-impact structural measures were found to be more appropriate than traditional full structural measures. The definition of low impact structural alternatives is discussed below, as well as best management practices for sediment and scour at drainage crossings and other structural features. The best management practice recommendations are intended for use by the Town of Carefree for management of future development, and were developed based on the results of the sedimentation engineering and geomorphic analyses performed for the Carefree DMP. The following types of best management practices are recommended:

- Low Impact Alternative Definition
- Erosion Hazard Zones

- Maintenance of Bank Vegetation
- Maintenance of Riparian Corridors
- Drainage Crossing Design
- Downstream Impact Assessment
- Channel Restoration

Low Impact Alternative Definition. The best management practices described below are based on implementation of low impact alternatives wherever possible. The best way to minimize impacts on stream corridors is to maintain the form and function of the natural stream system to the greatest degree possible. The following low impact definition criteria are intended to achieve the best management practice of minimum disturbance of the natural system:

- Minimal velocity increase.
    - The average 10-year velocity in the channel or overbank should not change (± 0.0 fps).
    - The average 100-year velocity in the channel or overbank should not change (increase or decrease) by more than 10 percent or 1 foot per second (fps), whichever is less.
- Minimal water surface elevation increase.
    - The 10-year water surface elevation should not change (± 0.0 ft.).
    - The 100-year water surface elevation should not increase or decrease by more than 0.1 foot.
- Minimal disturbance of the main channel.
    - The bankfull width of the main channel should not decrease.
    - The streambed in the main channel should not be excavated or deepened.
    - Bank vegetation should not be removed. Where bank vegetation is temporarily disturbed by construction, it should be replaced, monitored for health, and irrigated if required to assure its survival.
    - The low-flow channel should not be relocated within the floodplain.
- No offsite impacts.
    - No erosion, sedimentation, or flood impacts to adjacent properties without the written permission of affected property owners.
    - Engineering and geomorphic analysis will be required to demonstrate that no long-term, short-term, or 100-year offsite impacts will occur.
- Preservation of natural landscape character and habitat within the floodplain.

In general, the less the natural channels and floodplains are disturbed, the less sedimentation, erosion and flood problems will occur.

Erosion Hazard Zones. Erosion hazard zone delineation was not included in the scope of services for the Carefree DMP. The Town of Carefree currently manages erosion hazards using the State Standard 5-96 Level 1 methodology. Some of the challenges of applying the State Standard 5-96 Level 1 methodology were described in the *Carefree DMP Sedimentation Engineering & Geomorphic Evaluation Technical Memorandum* (JEF,

2002). The recommended best management practice for areas subject to erosion hazards is prohibition of permanent or habitable structures. Alternatives to the recommended best management practice for erosion include the following:

- Detailed Erosion Hazard Analyses. In many cases, more detailed analysis of the erosion hazard than can be accomplished using the State Standard 5-96 Level 1 methodology are warranted in the Carefree DMP study area. Such analyses should be completed by a registered professional engineer and/or a qualified fluvial geomorphologist using the draft Erosion Hazard Assessment Guidelines prepared by the District.
- Low Impact Alternatives. Low impact alternatives for development within erosion hazard zones were provided in Chapter 5 of Attachment 3 of the North Peoria ADMP Final Report. Low impact alternatives consist of methods of constructing erosion protection that have minimal impacts on channel morphology.

Erosion hazards also exist on small and minor watercourses in the Carefree DMP study area. New development should be set back a safe distance from any watercourse.

Maintenance of Bank Vegetation/Maintenance of Riparian Corridors. Bank vegetation and riparian corridors provide habitat, erosion protection, aesthetic benefits, water quality, and other vital functions for the Carefree DMP study area. The recommended best management practices for bank vegetation and riparian corridors include the following:

- Bank Vegetation. Bank vegetation should not be disturbed for any reason. Where vegetation must be removed for construction, it should be replaced with equivalent species and densities. Irrigation, inspection, and maintenance may be required to assure survival of replacement vegetation. The recommended low impact alternatives described below assume that bank vegetation will not be disturbed. Therefore, the following best management practices for bank vegetation are recommended:
    - Subdivision lots should be platted so that individual homeowners do not own the channel banks. Elsewhere in Arizona, homeowners frequently cut or thin bank vegetation to gain better views of the stream bank, thus initiating or accelerating bank erosion.
    - Open space and common areas that include watercourses should be at least wide enough to encompass bank vegetation and a riparian zone adjacent to the main channel.
    - Educational material should be provided to homeowners, homeowner associations, and developers regarding the importance of maintaining healthy bank vegetation for flood and erosion control, as well as for habitat preservation.

- Riparian Corridors. Riparian vegetation should be preserved or replaced where disturbed by floodplain development. The recommended low impact alternatives

described below assume that any disturbance of the riparian corridor will be mitigated, and that additional vegetation will be planted within the stream corridor.

In general, erosion hazard zones should encompass the entire riparian corridor and vegetated stream banks. Therefore, implementation of the erosion hazard zone best management practices will also help assure preservation of bank vegetation and riparian corridors.

Drainage Crossing Design. Poorly designed drainage crossings can have major sedimentation and erosion impacts on adjacent stream reaches. The types and severity of impacts vary with structure type, local geology, channel characteristics, and flood dynamics. Based on their likely impacts on channel stability, the following best management practices for roadway crossing design are recommended for the major watercourses in the Carefree DMP study area:

- Bridges are preferable to culverts. Bridges typically have less impact on channel stability than culverts due to wider openings and decreased headwater ponding.
- At-grade crossings are preferable to undersized culverts. Undersized culverts are those that do not meet the recommended span and rise criteria defined below.
- Culvert span (width) should be as wide as the main channel (top of left bank to top of right bank). Culverts that do not obstruct the main channel will have less frequent impacts on channel stability than culverts that block the main channel.
- Culvert rise (height) should be as high as the average main channel bank height. Culverts that do not obstruct the main channel will have less frequent impacts on channel stability than those that do.
- Because of the expected increase in channel instability in adjacent stream reaches, in-line detention facilities at roadway crossings are not recommended.
- Where braided or multiple channels exist, relief structures should be provided to maintain overbank flow paths, preserve overbank conveyance, and prevent floodplain sedimentation.
- Roadway crossings should be regularly maintained and inspected to identify potential problems and impacts to channel stability, and to assure structure performance.
- To prevent formation of scour holes or ponding areas, erosion protection should be provided where roadway runoff directly enters the stream channel.

Downstream Impact Assessment . The District's erosion hazard assessment criteria can also be used to evaluate potential downstream impacts. At minimum, detailed evaluations of potential downstream impacts of any proposed improvement in the flood and erosion hazard zone should include the following:

- Range of discharges. The hydrologic, hydraulic, and sediment impacts for a range of discharges, not just the 100-year event, should be considered.
- Long-term impacts. The probable long-term channel responses should be considered based on geomorphic analysis of the stream system and known historical responses, rather than on the expected response for a single flood event.

In general, if the low impact criteria defined above are implemented, downstream impacts will be negligible.

Channel Restoration. If the best management practices for erosion hazard zones, maintenance of bank vegetation and riparian corridors, and drainage crossing design are implemented, there will be no need for channel restoration. However, in the event that human activities create local channel disturbances that require restoration, the following best management practices are recommended:

- Plant Species. Use of native vegetation is encouraged to assure high survival rates and to minimize environmental impacts. Plants should be selected using the following criteria:
    - Flood tolerance vs. planting zone. Only flood tolerant plants should be planted in areas likely to be flooded.
    - Drought tolerance. Drought tolerant plants are more likely to survive over the long-term.
    - Deep rooting. Deep rooting plants withstand erosion better than shallow rooting plants, and are more likely to find a natural, sustained water supply.
    - Habitat value. Use of plant species with high habitat value is encouraged.
    - Ground cover. True ground cover species are generally not found in natural, non-irrigated settings. Plants with hanging branches may offer the same erosion protections as low growing ground cover.
    - Native species. Use of plants native to central Arizona is encouraged.
    - Vertical complexity. Design of a plant community with understory and overstory species is encouraged.
- Toe of Slope. Deep rooting, long-lived, woody species should be planted at the toe of bank slopes and along the bank slope up to the 10-year water surface elevation to minimize the potential for undercutting, to provide the greatest resistance to higher velocities, and to mimic natural riparian plant density and distribution. Planting of riparian vegetation at the toe of the bank is encouraged for the following reasons:
    - Toe protection. The root mass, trunk, and leaf canopy provide protection from erosion at the critical toe area of the bank.
    - Irrigation. Irrigation is easier to accomplish at the toe of the bank than on the bank slope.
    - Water table. Roots from species placed at the bank toe are more likely to reach the water table than those placed on the bank slope.
    - Undercutting. Plants at the bank toe are less likely to be undercut than plants on the bank slope.
    - Aesthetics. Use of larger plants at the floodplain elevation, with smaller upland species on the bank slope mimics the natural environment.
    - Water quality. Design of a denser swath of vegetation at the bank slope provides barrier, conduit, filter, and riparian sink functions for the stream corridor.
- Bank Slope. Use of ground cover species is encouraged from the toe of slope to the 100-year water surface elevation.

- Top of Slope. Use of drought-tolerant desert species is recommended above the 100-year water surface elevation. Planting should mimic natural upland plant density and distribution.
- Irrigation. Irrigation may be required to assure plant survival, especially immediately after planting and for planting on upland slopes above the floodplain.
- Monitoring/Maintenance. A regular monitoring and maintenance program should be established to assure plant survival and assure that project goals are met. Monitoring should be conducted prior to the growing and planting seasons.
- Undercutting. Where the potential for long-term degradation to undercut bank vegetation is high, grade control should be provided to minimize the potential for undercutting of vegetated bank slopes.
- Landscape Character. Consideration of view sheds and natural landscape character is recommended in design of revegetation.

Where channel change is caused by non-localized disturbances, such as watershed development, restoration activities must address the causes of channel change, rather than just the symptoms of instability occurring in the main channel. Where channel change is caused by natural disasters such as wildfire, the recommended best management practice is to allow the stream system to recover naturally, or to implement a watershed-based restoration plan. Only non-natural impacts should be addressed in restoration plans.

More detailed information on use of vegetation in channel restoration and design is provided in the following references:

- Briggs, M., 1996, Riparian Ecosystem Recovery in Arid Lands – Strategies and References. University of Arizona Press, Tucson, Arizona.
- Federal Interagency Stream Restoration Working Group, 1998, *Stream Corridor Restoration – Principles, Processes, and Practices.*

Site Specific Analyses

The recommended plan for the Carefree DMP includes improvements to six drainage crossings to facilitate all-weather access to portions of the Town of Carefree. Site-specific sedimentation impacts of the recommended alternatives for the following six roadway crossings are discussed below:

- Rising Sun Road @ Unnamed Tributary to Galloway Wash
- Pima Road @ Galloway Wash
- Cave Creek Road @ Unnamed Tributary to Cave Creek
- Tranquil Trail @ Galloway Wash
- Sombrero Road @ North Branch Galloway Wash
- Golden Spur Lane @ Unnamed Tributary to Galloway Wash

In additional, general recommendations for managing long-term and short-term sediment impacts along Galloway Wash are discussed. Descriptions of channel geomorphology and historical documentation of channel change were presented in *Carefree DMP Sedimentation Engineering & Geomorphic Evaluation Technical Memorandum* (JEF, 2002), and are not repeated in detail here. Instead, the likely sediment impact of each of the recommended plan elements is discussed, and design modifications to accommodate sedimentation are proposed.

Rising Sun Road @ Unnamed Tributary to Galloway Wash

The existing Rising Sun Road crossing of the unnamed tributary to Galloway Wash consists of a raised roadway section with a 60"x36" CMPA culvert and a 54" CMP culvert. The recommended plan calls for replacing the existing culverts with a five-barrel pipe arch bridge. The unnamed tributary is a steep, sand and gravel bed stream, with a braided main channel and shallow, frequently inundated floodplains that are subject to periodic avulsions. An aerial photograph of the Rising Sun Road study site is shown in Figure 1. Field photographs are shown in Figures 2 to 7.

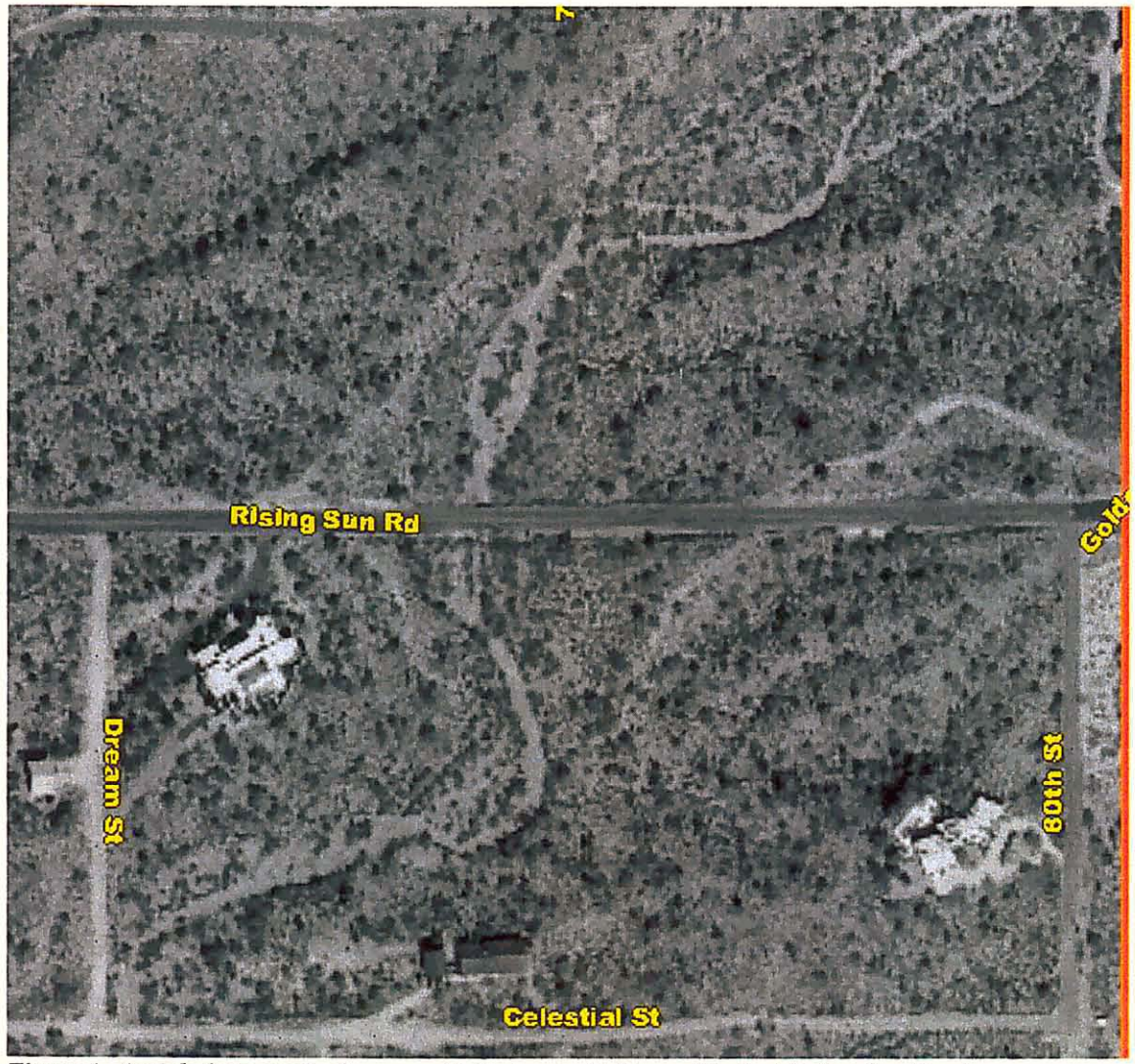


Figure 1. Aerial photograph of unnamed tributary to Galloway Wash at Rising Sun Road.

Figure 2. View looking downstream at buried culvert inlets under Rising Sun Road. Photo #Rising_1.

Figure 3. View downstream from Rising Sun Road past grouted rock overflow protection. Photo #Rising_4.

Figure 4 . View looking upstream from Rising Sun Road at right floodplain. Match to Figure 5. Photo #Rising_2.

Figure 5. View upstream from Rising Sun Road at main channel and left floodplain of unnamed tributary to Galloway Wash. Photo #Rising_3.

Figure 6. View looking east across floodplain of unnamed tributary to Galloway Wash at upstream side of elevated road profile. Photo #Rising_5.

Figure 7. Erosion protection on downstream side of raised road embankment of Rising Sun Road. Photo #Rising_6.

Existing Conditions. The existing culvert crossing at Rising Sun Road is subject to upstream sediment deposition, clogging of the culvert inlets, overtopping of the roadway, and scour of the downstream face of the raised roadway section. The existing sedimentation problems primarily affect function of the culverts and limit all-weather access, but do not appear to extend more than several hundred feet upstream or downstream of the culverts. Sediment deposition immediately upstream of the culverts has clogged the culvert inlets and widened the main channel by about 50 percent of the average upstream and downstream natural channel width.

Upstream sediment deposition at this location is due to the severe channel constriction created by the narrow culverts and the floodplain obstruction caused by the raised roadway profile. The natural main channel width of the unnamed tributary is about 20 feet and the natural floodplain width is about 210 feet, while the existing culverts are a total of 9.5 feet wide, not including any reduction in effective culvert width due to clogging. The flow obstruction caused by the narrow culverts and raised road profile slows the upstream channel and floodplain velocities to be nearly zero for any bankfull or greater flow event. Since it is the bankfull or greater flow events that transport most of the stream's sediment load, and since sediment transport is exponentially related to velocity, reduction of flow velocities in those events results in significant sediment deposition upstream of the culverts. As sediment deposits and fills the culvert inlets, culvert capacity decreases, resulting in a self-enhancing feedback mechanism that increases the rate of upstream sediment deposition. However, given the steep slope of the unnamed tributary, the wedge of sediment deposited upstream of Rising Sun Road does not extend more than a few hundred feet upstream of the road right-of-way.

Sediment Impacts of the Recommended Alternative. The recommended alternative for the Rising Sun Road crossing is to replace the existing narrow culverts with five 6 ft. x 4.5 ft. pipe arches. The most likely sedimentation impacts of the proposed alternative will include the following:

- Sediment deposition in the outside pipe arch cells. The total width of the pipe arch bridge will be approximately 34 feet, with an effective width of about 30 feet. Although the proposed culvert widths match the existing channel width on the upstream side of the culverts, because the culvert width exceeds the average natural channel width of the stream, some deposition in the outside pipe arch cells may be expected, particularly during periods when less than bankfull events occur.
- Sediment deposition during very large flood events. Upstream sediment deposition during floods approaching the design event (Q100) should be expected due to the constriction of the naturally wide floodplain into the 100-year capacity pipe arch bridge.
- Minor channel bed erosion upstream of the culverts. The increased capacity of the pipe arch bridge relative to the existing culverts will tend to allow more water and sediment to pass the road crossing. Therefore, some of the sediment that has accumulated on the streambed upstream of the existing culverts will be removed as a more natural grade is restored in the stream. Slight deepening of the channel will likely be concurrent with slight narrowing of the main channel upstream of the road,

further enhancing the likelihood of sediment deposition in the outer cells of the pipe arch bridge.

- Clogging. Pipe arch bridges typically are not prone to significant clogging by sediment and debris.

No significant sediment impacts on the stream downstream or upstream of Rising Sun Road are expected due to construction of the recommended alternative.

Inspection and Maintenance. Sediment inspection and maintenance should be performed annually, preferably prior to the summer monsoon season. Inspectors should look for the following features:

- Sediment deposition and debris accumulation at the pipe arch inlets.
- Scour at the pipe arch outlets.
- Evidence of upstream channel migration that would increase the skew of the approach channel to the pipe arch cells.

Sediment removed from the pipe arch cells should be dumped on the downstream side of the bridge, preferably in a scour hole if one has formed, but not in such a way as to block the outlets.

Design Recommendations. The following design recommendations for the preferred alternative are made:

- Raise the invert elevations of the outer pipe arch cell. The invert elevations of the two outer left (east) pipe arch cells should be raised by at least one foot above the inverts of the remaining cells. The left pipe arch inverts should be raised because they are adjacent to the more active floodplain and because they are on the inside of a slight bend in the stream and would therefore be subject to point bar deposition. Raising the left pipe arch cells will limit the remaining pipe arch width to the natural channel width and will reduce the potential for sediment deposition in the pipe arches.
- Establish the pipe arch inlet invert elevation based on the existing outlet elevation and the natural channel slope, rather than on the existing invert elevation. The existing invert elevation is artificially high due to sediment deposition at the inlet. Because the inlet elevation is likely to be below the existing bed elevation at the inlet, some upstream sediment removal may be required, but should not exceed the grade established by the natural channel slope.
- Erosion protection is required at the culvert outlets, particularly for the raised pipe arch cells. Flexible scour protection, such as rock rip rap, is preferred over rigid designs.
- Pipe arch cells should have a reinforced concrete floor to facilitate maintenance.
- Elevation reference marks should be placed on the upstream face of the pipe arch to facilitate inspection of sediment deposition depths at the inlets.

Pima Road @ Galloway Wash

The existing crossing of Galloway Wash at Pima Road consists of an at-grade dip section. The recommended plan calls for replacing the existing at-grade crossing with a five-barrel pipe arch bridge and regrading the wash to prevent the breakout flow to the north of the Pruett residence. Galloway Wash is a steep, sand and gravel bed stream, with a braided main channel incised within narrow floodplains that have been encroached by recent development. Immediately upstream of Pima Road, Galloway Wash splits into a highly braided and distributary pattern that joins and is forced into a single channel downstream of Pima Road by the Pima Road at-grade crossing and a home built in the natural (right) floodplain of the wash. An aerial photograph of the Pima Road study site is shown in Figure 8. Field photographs are shown in Figures 9 to 13.

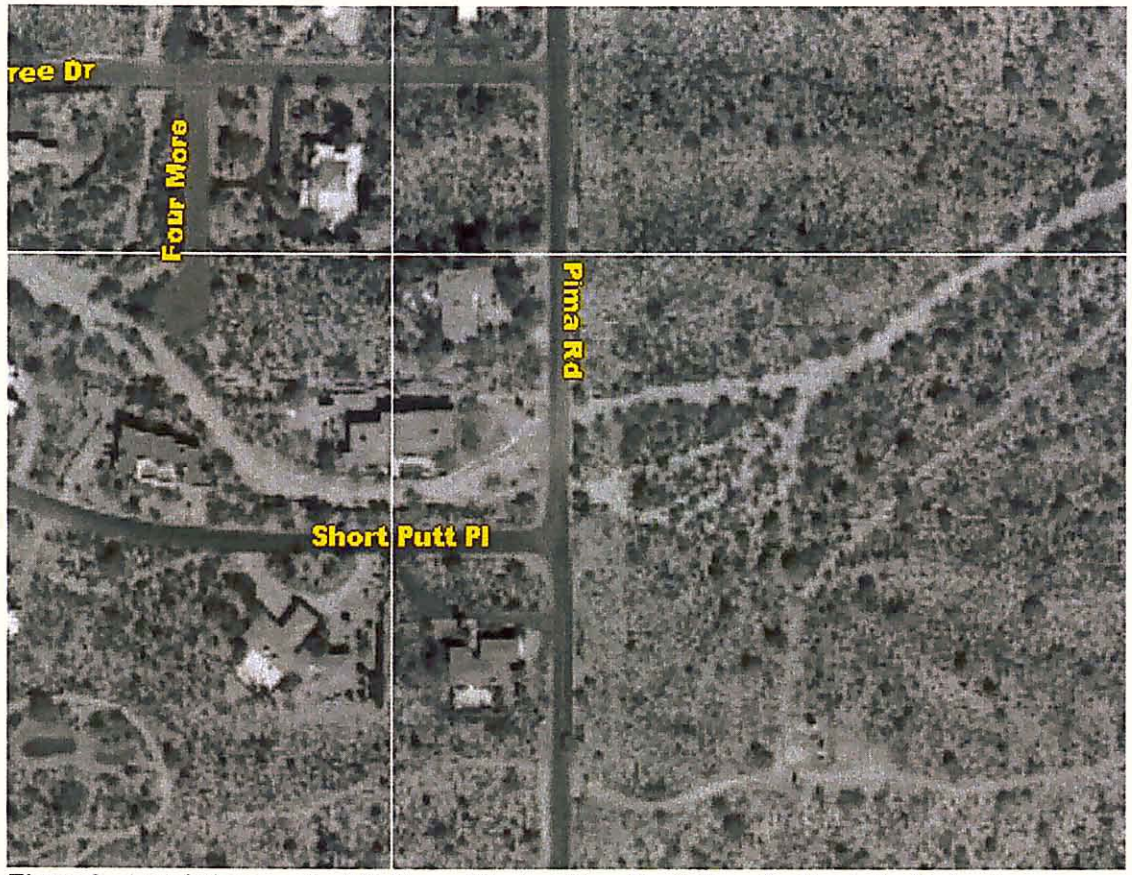


Figure 8. Aerial photograph of Galloway Wash at Pima Road. Note the highly braided pattern upstream of Pima Road and the residence built in the historical floodplain of Galloway Wash downstream of Pima Road.

Figure 9. View upstream on north (right) braid of Galloway Wash at Pima Road. Note scour at downstream lip of pavement. Photo #Pima_3.

Figure 10. View upstream on south (left) braid of Galloway Wash at Pima Road. Photo #Pima_1.

Figure 11. View downstream on Galloway Wash at Pima Road. Note gunite wall constructed along right bank adjacent to the Pruett residence. Photo #Pima_2.

Figure 12. View downstream at constriction on Galloway Wash at Pima Road. Large rock from erosion of scour protection at Pima Road. Photo #Pima_4.

Figure 13. View north across Pima Road at-grade crossing of Galloway Wash. Note sediment deposition on road surface and sediment piles on upstream side of crossing. Photo #Pima_5

Existing Conditions. The existing at-grade crossing at Pima Road is subject to frequent sediment deposition on the roadway, scour of the downstream lip of the paved road section, and disruption of traffic flow during and after floods. The effects of sedimentation on the existing crossing are primarily limited to the crossing itself, and do not directly affect Galloway Wash outside the Pima Road right-of-way.

Sediment deposition on the roadway is due to the high sediment transport capacity of Galloway Wash and the sand/gravel bed sediment size that is readily transported by very small flow rates. Field observations, supported by local residents' statements, indicate that artificial discharges to Galloway Wash from undetermined sources (not related to precipitation) immediately upstream of Pima Road create runoff that also deposits sediment and debris in the paved at-grade section.

Scour at the downstream lip of the paved section has undercut the roadway and left a hazardous scour hole. Downstream scour is due to several factors. First, flow acceleration over the paved road section is sufficient to induce scour. Second, construction of a relatively flat pavement cross section on a steep wash creates a drop in elevation at the downstream edge that increases turbulence and causes scour. Third, the existing at-grade crossing is narrower than the natural (pre-development) braided channel width. The constriction caused by the at-grade section concentrates flow, increases flow velocities and depths, and encourages development of a scour hole. Fourth, construction of the Pruett residence in the right floodplain cut off a formerly active braid, concentrated flow in the main channel and caused channel incision that migrated upstream to the at-grade crossing and left a drop in elevation on the downstream side of the road. Pima Road currently provides grade control for upstream portions of Galloway Wash.

Sediment Impacts of the Recommended Alternative. The recommended alternative for the Pima Road crossing is to replace the existing at-grade crossing with five 11 ft. x 3.5 ft. pipe arches and construct a flood control structure upstream of Pima Road[1] to direct floodwater away from the breakout channel north of the Pruett residence toward the bridge opening. The most likely sedimentation impacts of the proposed alternative will include the following:

- Erosion along the toe of the flood control structure. Flood flows, as well as nuisance flows, that abut the flood control structure will tend to scour the toe and upstream flank due to flow acceleration caused by the floodplain constriction (contraction scour), alternation of the natural flow direction (bend scour, local scour), and natural lateral migration of the main channel within the flood corridor.
- Erosion of the channel bed upstream of Pima Road. Deposition that has occurred upstream of the Pima Road at-grade crossing will be removed if the proposed pipe arch culverts lower the invert at the road alignment. Given the natural channel slope, bed sediment gradation, and upstream sediment supply, bed erosion will probably be limited in extent.

[1] No details were provided on the upstream flood control structure.

- Outlet scour. The proposed alternative concentrates the entire 100-year discharge over the main channel which will cause higher than natural channel velocities at the pipe arch outlets, with potential for a hydraulic jump at the transition between the lined pipe arch cells and the natural channel bed. The increased velocity and turbulence is likely to cause scour at the outlets.
- Erosion of the left bank downstream of Pima Road. Flow concentration, cutoff of the right overbank breakout channel, the likely alignment of the pipe arch cells directing flow toward the left bank, in conjunction with the existing lined right bank and position of the left bank on the outside of a channel bend, may combine to increase the rate of erosion of the left bank near Short Putt Place. Field evidence indicates that the left bank is already subject to significant erosional pressure.

Inspection and Maintenance. Sediment inspection and maintenance should be performed annually, preferably prior to the summer monsoon season. Inspectors should look for the following features:

- Sediment deposition and debris accumulation at the pipe arch inlets.
- Erosion at the toe and upstream flank of the flood control structure that directs floodwater from the north side of the floodplain to the pipe arch bridge.
- Aggradation along the flood control levee that might compromise its required freeboard.
- Scour or damage to erosion protection at the pipe arch outlets.
- Channel scour upstream of Pima Road along the toe and upstream flank of the flood control structure that directs floodwater from the north side of the floodplain to the pipe arch bridge.
- Evidence of upstream channel migration that would increase the skew of the approach channel to the pipe arch cells.
- Erosion of the left bank downstream of Pima Road.

Sediment removed from the pipe arch cells should be dumped on the downstream side of the bridge, preferably in a scour hole if one has formed, but not in such a way as to block the outlets.

Design Recommendations. The following design recommendations for the preferred alternative are made:

- The upstream flood control structure should have adequate freeboard to account for potential aggradation observed elsewhere on major watercourses in the Town of Carefree, and to meet FEMA requirements so that the right overbank breakout floodplain can be removed from the regulatory floodplain.
- The floor of the pipe arches should be lined with reinforced concrete to provide grade control and facilitate sediment maintenance.
- Elevation reference marks should be placed on the upstream face of the pipe arches and the upstream flood control structure to facilitate sediment inspection.

- The upstream flood control structure should be designed with a smooth transition from the natural channel section to the pipe arch bridge section to prevent aggradation due to abrupt changes in channel velocity, as well as to prevent severe scour in the contracted cross section.
- The upstream flood control structure should tie in to the older geomorphic surface at its upstream end to help prevent flanking.
- The Galloway Wash channel downstream of Pima Road should be widened and stabilized to prevent erosion of the left bank and to provide capacity for the right overbank breakout flow diverted to the main channel. Erosion protection could be designed to incorporate both bioengineering and traditional techniques.

Cave Creek Road @ Unnamed Tributary to Cave Creek

The existing crossing of the unnamed tributary to Cave Creek at Cave Creek Road consists of three 66-inch CMP culverts. The recommended plan calls for adding two additional 66-inch CMP culverts or adding two 48-inch CMP culverts with raised inverts. The unnamed tributary to Cave Creek is a steep, sand and gravel bed stream, with a braided main channel and a floodplain that has been encroached by recent development. An aerial photograph of the Pima Road study site is shown in Figure 14. Field photographs are shown in Figures 15 to 20.

Figure 14. Aerial photograph of unnamed tributary to Cave Creek at Cave Creek Road.

Figure 15. View downstream at inlet to culverts under Cave Creek Road at unnamed tributary to Cave Creek. Photo #Cave_1.

Figure 16. View of partially buried culvert outlet at Cave Creek Road. Photo #Cave_4.

Figure 17. View of main channel of unnamed tributary to Cave Creek immediately upstream of Cave Creek Road. Photo #Cave_6.

Figure 18. View upstream from Cave Creek Rd at residential encroachment in main channel and left floodplain of unnamed tributary to Cave Creek. Photo #Cave_2.

Figure 19. View of main channel of unnamed tributary to Cave Creek immediately downstream from Cave Creek Road. Photo #Cave_3.

Figure 20. View of private road culvert crossing several hundred feet downstream of Cave Creek Road on unnamed tributary to Cave Creek. Photo #Cave_5.

Existing Conditions. The existing culvert crossing at Cave Creek Road is subject to minor sediment deposition at the outlet. No significant sedimentation impacts on the existing crossing or adjacent channel reaches were observed during field visits. Sediment deposition at the culvert outlet is probably associated with a minor change in channel slope or a slight expansion in channel width relative to the effective width at the culvert outlet. Such deposition is a response to less than bankfull flow events. Large flows will tend to scour at the culvert outlets and remove any low flow sediment deposition.

Sediment and erosion problems, such as upstream channel encroachment by development or the raised invert of the downstream crossing, are outside the scope of this investigation.

Sediment Impacts of the Recommended Alternative. The recommended alternative for the Cave Creek Road crossing is to add two additional CMP 66-inch or 48-inch culverts. The most likely sedimentation impacts of the proposed alternative will include the following:

- Sediment deposition in the outer culvert cells. Because the additional culvert will make the effective culvert width greater than the existing channel width upstream of the crossing, sediment deposition is likely in the flow expansion areas.
- Erosion of the channel banks is likely where vegetation is removed to accommodate the additional culvert cells, particularly on the downstream side of Cave Creek Road.

Inspection and Maintenance. Sediment inspection and maintenance should be performed annually, preferably prior to the summer monsoon season. Inspectors should look for the following features:

- Sediment deposition and debris accumulation at the pipe arch outlets and inlets.
- Bank erosion in the widened channel sections adjacent to the improved crossing.

Sediment removed from the culverts should be dumped on the downstream side of the bridge, preferably in a scour hole if one has formed, but not in such a way as to block the outlets.

Design Recommendations. The following design recommendations for the preferred alternative are made:

- The inverts of the additional culvert cells located outside the existing channel width should be elevated at least two feet above the existing channel bed to minimize the potential for frequent sediment deposition in the expanded cross section.
- Elevation reference marks should be placed on the upstream and downstream faces of the culvert headwalls to facilitate sediment inspection.
- The channel transitions upstream and downstream of the widened culvert section should be designed to minimize rapid changes in channel velocities in the approach and exit sections.

Tranquil Trail @ Galloway Wash

The existing crossing of Galloway Wash and an unnamed tributary at Tranquil Trail consists of an at-grade crossing over Galloway Wash and two partially filled CMP culverts at the unnamed tributary. The recommended plan calls for replacing the existing crossing with a six-barrel pipe arch bridge. Galloway Wash is a steep, sand and gravel bed stream, with a braided main channel incised within narrow floodplains that have been encroached by recent development. A small rock-covered levee has been constructed on the right bank immediately upstream of Tranquil Trail between Galloway Wash and the unnamed tributary. An aerial photograph of the Pima Road study site is shown in Figure 21. Field photographs are shown in Figures 22 to 27.

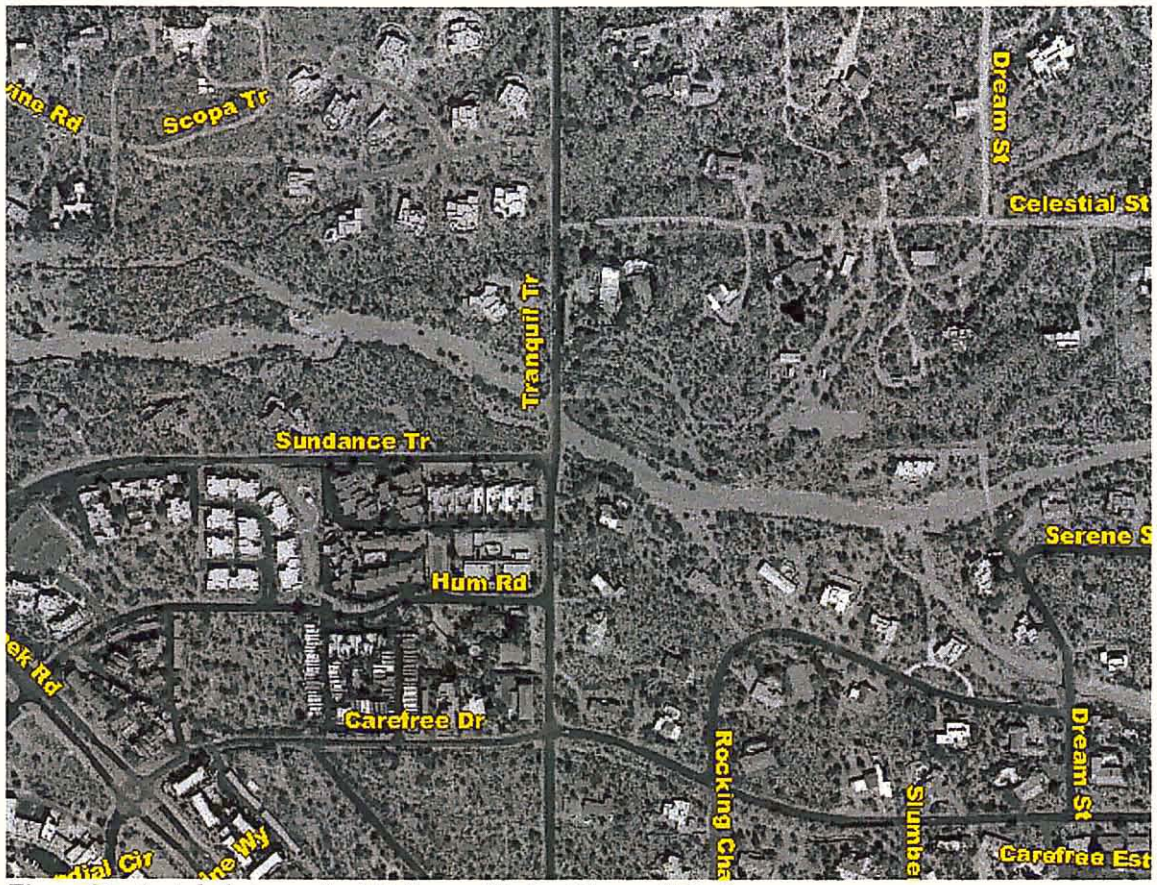


Figure 21. Aerial photograph of Galloway Wash at Tranquil Trail.

Figure 22. View looking south across Galloway Wash at Tranquil Trail at-grade crossing. Unnamed tributary crossing in foreground. Photo #Tranquil_4.

Figure 23. View upstream of Tranquil Trail along Galloway Wash main channel. Note evidence of recent sediment removal. Photo #Tranquil_5.

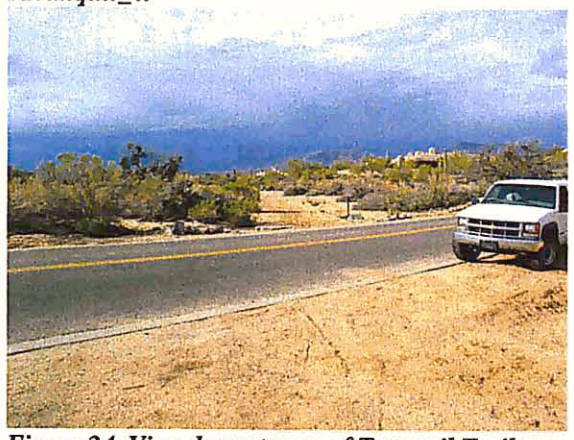


Figure 24. View downstream of Tranquil Trail on Galloway Wash. Note scour on downstream face of at-grade crossing. Photo #Tranquil_7.

Figure 25. View of Galloway Wash left floodplain downstream of Tranquil Trail. Photo #Tranquil_6.

Figure 26. View downstream from small culverts under Tranquil Trail along unnamed tributary to Galloway Wash, which is visible in the rear of the photo. Photo #Tranquil_2.

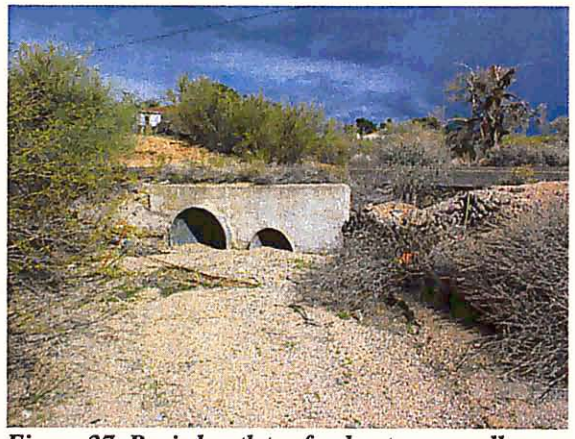


Figure 27. Buried outlets of culverts on small unnamed tributary to Galloway Wash. Photo #Tranquil_3.

Existing Conditions. The existing at-grade crossing at Tranquil Trail is subject to sediment deposition on and upstream of the roadway, minor scour of the downstream lip of the paved road section, and disruption of traffic flow during and after floods. The dip section crossing also includes two culverts that are intended to convey runoff under Tranquil Trail from an unnamed tributary to Galloway Wash. The culverts are partially filled by sediment. The effects of sedimentation on the existing crossing are primarily limited to the crossing itself, and do not appear to directly affect Galloway Wash outside the Tranquil Trail right-of-way.

Sediment deposition on the roadway is due to the high sediment transport capacity of Galloway Wash and the sand/gravel bed sediment size that is readily transported by very small flow rates. Sediment deposition in the tributary culverts is due to the decrease in slope from the steeper tributary to the flatter confluence area, as well as to backwater deposition during floods on Galloway Wash.

Minor scour at the downstream lip of the paved section is due to flow acceleration over the paved road section and construction of a relatively flat pavement cross section on a steep wash which creates a drop in elevation at the downstream edge. To date, scour has not progressed to the point of creating a substantial hazard.

Sediment Impacts of the Recommended Alternative. The recommended alternative for the Tranquil Trail crossing is to replace the existing at-grade crossing with six 20 ft. x 4.5 ft. pipe arches. The drainage crossing for the unnamed tributary to Galloway Wash is not currently addressed in the recommended plan. The most likely sedimentation impacts of the proposed alternative will include the following:

- Deposition in the outer pipe arch cells. While the proposed pipe arch bridge width matches the existing floodplain width, it is somewhat wider than the 80-foot wide main channel. Therefore, pipe arch cells in the flow expansion area are likely to experience deposition of sediment during small to moderate sized events. In addition, if the channel width abruptly narrows downstream of the wider bridge section, a backwater condition is likely to form that will induce further deposition during large events.
- Erosion of the bank downstream. If the pipe arch cells are improperly aligned so that they direct flow against one of the downstream streambanks, erosion of those banks should be expected at the point flow impinges on the banks.

Inspection and Maintenance. Sediment inspection and maintenance should be performed annually, preferably prior to the summer monsoon season. Inspectors should look for the following features:

- Sediment deposition in the outer cells of the pipe arch bridge section.
- Erosion of channel banks downstream of the pipe arch bridge.
- Scour at the outlet of the pipe arches.

Sediment removed from the pipe arch cells should be dumped on the downstream side of the bridge, preferably in a scour hole if one has formed, but not in such a way as to block the outlets.

Design Recommendations. The following design recommendations for the preferred alternative are made:

- The pipe arches should be aligned parallel to the primary flow direction and toward the center of the channel, rather than at either of the downstream banks.
- A gradual channel transition should be provided upstream and downstream of bridge section to facilitate flow expansion into the widened bridge section and contraction into the narrower downstream channel.
- Bank protection may be required in the downstream contraction section. A combination of traditional and bioengineering techniques should be considered.
- Redesign of the tributary culverts should be included in the recommended plan.
- The outer two pipe arch cells should be raised at least one foot above the channel invert to minimize the flow expansion and consequent sedimentation in the bridge section.
- Erosion protection on the right bank levee upstream of Tranquil Trail should be upgraded.
- The floor of the pipe arches should be lined with reinforced concrete to provide grade control and facilitate sediment maintenance.
- Elevation reference marks should be placed on the upstream face of the pipe arches and the upstream flood control structure to facilitate sediment inspection.

Sombrero Road @ North Branch Galloway Wash

The existing crossing of the North Branch Galloway Wash at Sombrero Road consists of an at-grade crossing. The recommended plan calls for replacing the existing crossing with a four-barrel pipe arch bridge with two 54-inch CMP relief culverts. The North Branch Galloway Wash is a steep, sand and gravel bed stream, with a braided main channel that occupies most of its relatively wide floodplain. An aerial photograph of the Sombrero Road study site is shown in Figure 28. Field photographs are shown in Figures 29 to 33.

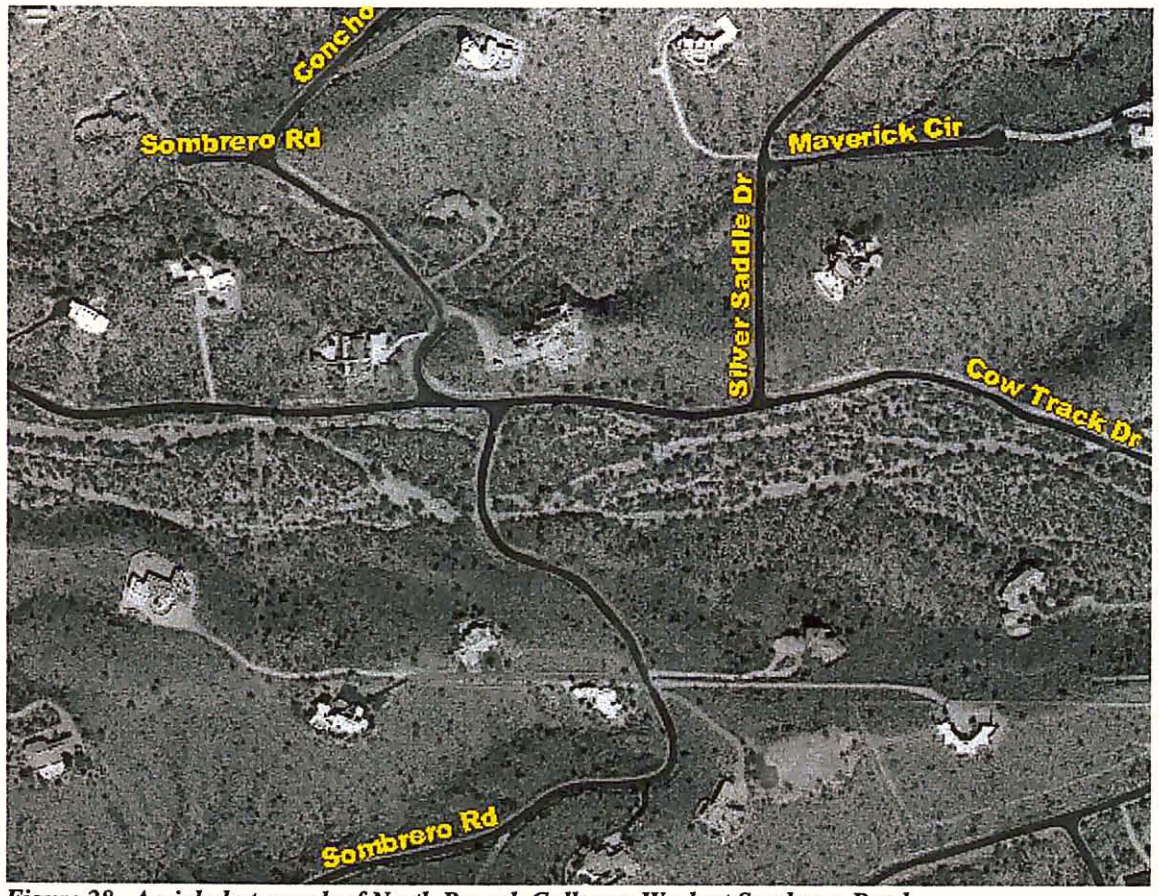


Figure 28. Aerial photograph of North Branch Galloway Wash at Sombrero Road.

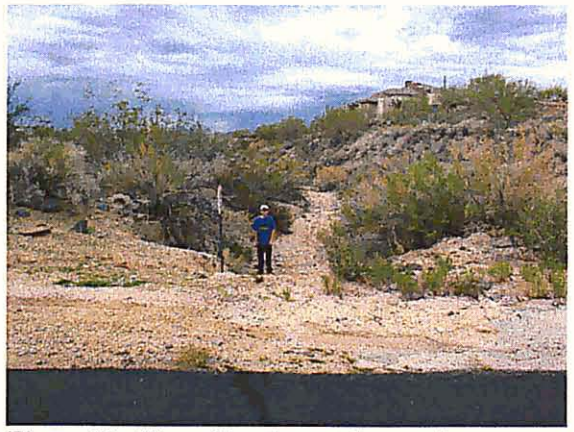


Figure 29. View of headcut and scour downstream of Sombrero Road on the right (north) channel of North Branch Galloway Wash. Photo #Sombrero_1.

Figure 30. View of poorly defined (or non-existent) right channel upstream of Sombrero Road on North Branch Galloway Wash. Photo #Sombrero_2.

Figure 31. View downstream of Sombrero Road on left (main) channel of North Branch Galloway Wash. Photo #Sombrero_3.

Figure 32. View upstream at minor scour at downstream lip of at-grade crossing of North Branch Galloway Wash main channel. Photo #Sombrero_4.

Figure 33. View north across floodplain and at-grade crossing at Sombrero Road and North Branch Galloway Wash. Photo #Sombrero_5.

Existing Conditions. The existing at-grade crossing at Sombrero Road is subject to sediment deposition on the roadway, scour of the downstream lip of the paved road section, and disruption of traffic flow during and after floods. The effects of sedimentation on the existing crossing are primarily limited to the crossing itself, and do not directly affect the North Branch Galloway Wash outside the Sombrero Road right-of-way.

Sediment deposition on the roadway is due to the high sediment transport capacity of the North Branch Galloway Wash and the sand/gravel bed sediment size that is readily transported by very small flow rates. Sediment deposition on the road surface is a nuisance, an impediment to traffic flow, and a traffic safety hazard, but it is not a significant geomorphic problem within the stream corridor.

Scour at the downstream lip of the paved section is a more significant hazard than sediment deposition on the road surface. North Branch Galloway Wash flows in two main channels at the Sombrero Road at-grade crossing. The left (south) braid is the main channel and has a moderate sized scour hole on the downstream edge of a concrete sill constructed at the edge of the pavement. This scour hole is due to flow acceleration over the paved road section and construction of a relatively flat pavement cross section on a steep wash that creates a drop in elevation at the downstream edge. The smooth concrete sill allows additional flow acceleration without providing any energy dissipation, thus increasing the potential for scour.

A significant amount of scour has occurred at the downstream side of the right (north) braid. The most distinctive feature of the right (north) braid is the abrupt transition from a poorly defined, discontinuous network of small channels upstream of Sombrero Road to a well-defined incised single channel downstream of Sombrero Road. The contrast between the upstream and downstream channel characteristics is unmatched anywhere in the Carefree DMP study area, and is unlikely to be related to the at-grade crossing. Instead, the scoured and incised downstream channel is probably due to concentration of road runoff from Cow Track and Sombrero Roads that discharges to the right braid on the downstream side of the Sombrero Road crossing. Sediment-free clear water discharges into the right braid after nearly every rainfall due to the high imperviousness of the road surface. These clear water discharges have scoured the channel and caused long-term degradation.

Sediment Impacts of the Recommended Alternative. The recommended alternative for the Sombrero Road crossing is to replace the existing at-grade crossing with four 20 ft. x 4.5 ft. pipe arches at the left braid and two 54-inch culverts at the right braid. The most likely sedimentation impacts of the proposed alternative will include the following:

- Sediment deposition near the relief culverts during large floods. Relief culverts are prone to sediment deposition if the effective width differs from the width of the channels that lead to them. Furthermore, given the dense vegetation upstream of the right braid, clogging by vegetative debris and subsequent sediment deposition is possible.

- Deposition in the outer pipe arch cells. The proposed pipe arch bridge width is somewhat wider than the main channel of the left braid. Therefore, pipe arch cells in the flow expansion area are likely to experience deposition of sediment during small to moderate sized events. In addition, if the channel width abruptly narrows downstream of the wider bridge section, a backwater condition is likely to form that will induce further deposition during large events.
- Erosion of the channel bed upstream. If the pipe arch or culvert inverts are set below the natural channel bed, some upstream headcutting or incision should be expected as the stream adjusts to its new base level.
- Erosion of the downstream road embankment. If no provision is made for the road drainage that has scoured the downstream portion of the right braid, the road runoff may continue to erode the raised road embankment.
- Channel avulsion that might shift the main channel location within the floodplain. However, construction of the pipe arch bridge and a raised roadway profile are likely to reduce the potential for shifting of the main channel location away from the bridge because of the constraints on the flow in the floodplain.

Inspection and Maintenance. Sediment inspection and maintenance should be performed annually, preferably prior to the summer monsoon season. Inspectors should look for the following features:

- Sediment deposition and debris accumulation at the pipe arch and culvert inlets.
- Scour or damage to erosion protection at the pipe arch and culvert outlets.
- Erosion of the road embankment from road drainage into the right braid.
- Evidence of upstream channel migration that would increase the skew of the approach channel to the pipe arch cells.
- Erosion of the left bank downstream of Pima Road.

Sediment removed from the pipe arch cells should be dumped on the downstream side of the bridge, preferably in a scour hole if one has formed, but not in such a way as to block the outlets.

Design Recommendations. The following design recommendations for the preferred alternative are made:

- The floor of the pipe arches should be lined with reinforced concrete to provide grade control and facilitate sediment maintenance.
- Elevation reference marks should be placed on the on upstream face of the pipe arches and the upstream flood control structure to facilitate sediment inspection.
- The upstream flood control structure should be designed with a smooth transition from the natural channel section to the pipe arch bridge section to prevent aggradation due to abrupt changes in channel velocity and to prevent scour in the contraction.
- Erosion protection should be provided to safely convey road drainage to the right braid channel.
- The invert of the relief culverts should be designed to match existing grades.

Golden Spur Lane @ Unnamed Tributary to Galloway Wash

The existing crossing of the unnamed tributary to Galloway Wash at Golden Spur Lane consists of an at-grade crossing. The recommended plan calls for replacing the existing crossing with three 10'x4' RCB culverts. The unnamed tributary to Galloway Wash is a steep, sand and gravel bed stream, with a braided main channel that occupies most of its relatively wide floodplain. An aerial photograph of the Golden Spur Lane study site is shown in Figure 34. Field photographs are shown in Figures 35 to 40.

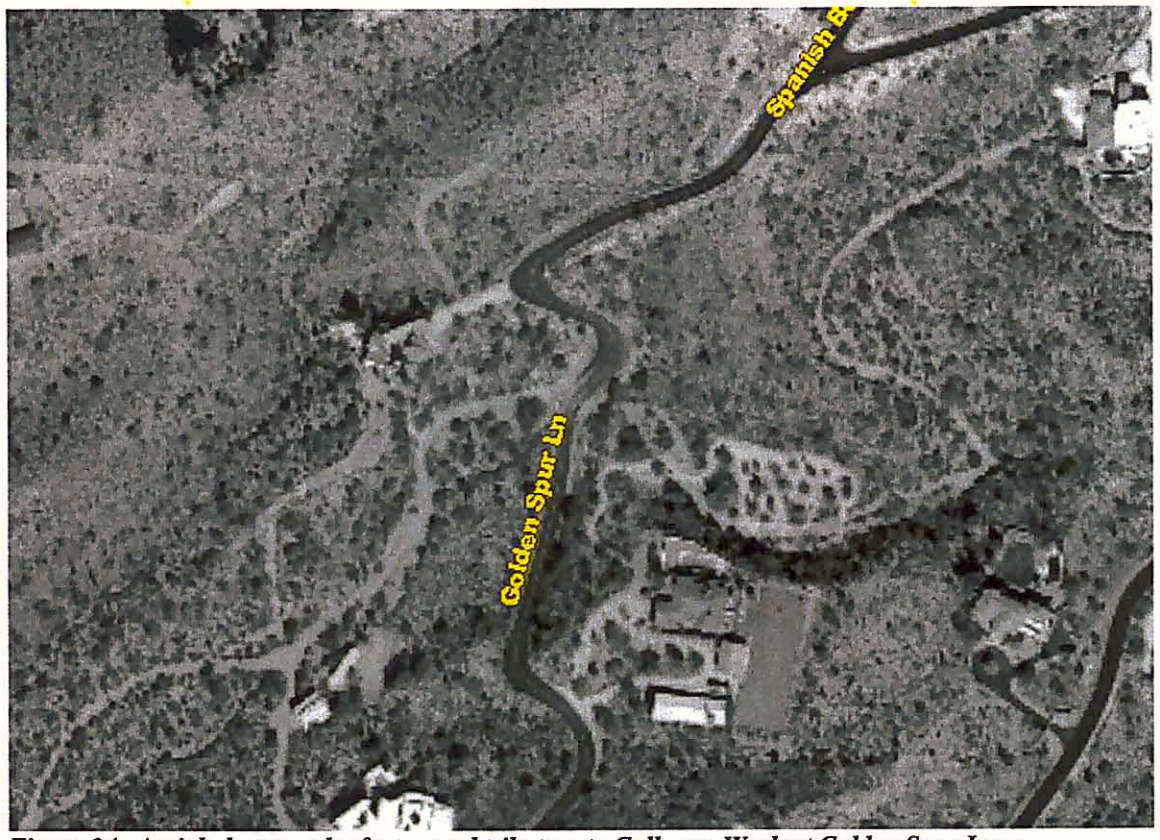


Figure 34. Aerial photograph of unnamed tributary to Galloway Wash at Golden Spur Lane.

Figure 35. View upstream from Golden Spur Lane at unnamed tributary to Galloway Wash. Photo #Spur_2.

Figure 36. View downstream from Golden Spur Lane at unnamed tributary to Galloway Wash. Photo #Spur_1.

Figure 37. View downstream at right floodplain channel downstream of Golden Spur Lane at unnamed tributary to Galloway Wash. Photo #Spur_3.

Figure 38. View south across unnamed wash floodplain and Golden Spur Lane at-grade crossing. Photo #Spur_4.

Figure 39. Cut bank and dumped sediment at bank toe at right margin of floodplain of unnamed tributary to Galloway Wash. Photo #Spur_5.

Figure 40. Graded and disturbed areas in main channel downstream of Golden Spur Lane. Photo #Spur_6.

Existing Conditions. The existing at-grade crossing at Golden Spur Lane is subject to sediment deposition on the roadway, migration of the main channel, and disruption of traffic flow during and after floods. The effects of sedimentation on the existing crossing are primarily limited to the crossing itself, and do not directly affect the unnamed tributary of Galloway Wash outside the Golden Spur Lane right-of-way.

Sediment deposition on the roadway is due to the high sediment transport capacity of the unnamed tributary of Galloway Wash and the sand/gravel bed sediment size that is readily transported by very small flow rates. Lateral migration of the main channel is a more significant problem at the Golden Spur Lane crossing that at the other at-grade crossings discussed above. The Golden Spur Lane crossing is located on a sharp bend in the main channel, as well as in the confining canyon. Currently the main channel is not located on the outside of the bend in the canyon, although field evidence suggests it was located there at some point in the recent past. Overbank flows impinge on the outside of the bend downstream of the Golden Spur Lane crossing, and are rapidly eroding the toe of the canyon wall.

Sediment Impacts of the Recommended Alternative. The recommended alternative for the Golden Spur Lane crossing is to replace the existing at-grade crossing with three 10 ft. x 4 ft. RCB culverts. The most likely sedimentation impacts of the proposed alternative will include the following:

- Deposition in the outer culvert cells. The proposed culvert span is wider than the natural existing main channel. Therefore, cells in the flow expansion area are likely to experience deposition of sediment during small to moderate sized events. In addition, if the channel width abruptly narrows downstream of the wider bridge section, a backwater condition is likely to form that will induce further deposition during large events.
- Channel avulsion. A channel avulsion might shift the location of the low flow channel relative to the improved culvert crossing. However, construction of the culvert section with a raised roadway profile is likely to reduce the potential for shifting of the main channel location because of the constraints on the flow in the floodplain.
- Erosion of the downstream bank. If the culverts are improperly aligned so that they direct flow against the downstream bank, erosion of the bank should be expected at the point flow impinges on the banks.
- Outlet scour. The proposed alternative concentrates the entire 100-year discharge over the main channel which will cause higher than natural channel velocities at the culvert outlets, with potential for a hydraulic jump at the transition between the lined pipe arch cells and the natural channel bed. The increased velocity and turbulence is likely to cause scour at the outlets.

Inspection and Maintenance. Sediment inspection and maintenance should be performed annually, preferably prior to the summer monsoon season. Inspectors should look for the following features:

- Sediment deposition and debris accumulation at the culvert inlets and in the outer culvert cells.
- Evidence of upstream channel migration that would increase the skew of the approach channel to the culverts.
- Erosion of the right bank downstream of Golden Spur Lane.

Sediment removed from the pipe arch cells should be dumped on the downstream side of the bridge, preferably in a scour hole if one has formed, but not in such a way as to block the outlets.

Design Recommendations. The following design recommendations for the preferred alternative are made:

- The floor of the pipe arches should be lined with reinforced concrete to provide grade control and facilitate sediment maintenance.
- Elevation reference marks should be placed on the on upstream face of the pipe arches and the upstream flood control structure to facilitate sediment inspection.
- The upstream flood control structure should be designed with a smooth transition from the natural channel section to the pipe arch bridge section to prevent aggradation due to abrupt changes in channel velocity, as well as to prevent severe scour in the contracted cross section.
- The culvert inverts should be placed at the existing natural grade of the wash.

Galloway Wash

Galloway Wash is the main drainage system in the Town of Carefree (Figure 41). The historical and existing condition geomorphology of Galloway Wash was addressed in detail in the *Carefree DMP Sedimentation Engineering & Geomorphic Evaluation Technical Memorandum* (JEF, 2002). That report concluded that Galloway Wash has been subject to the following influences:

- Floodplain Encroachment
- Construction of Piecemeal Bank Protection
- Cyclical Aggradation and Degradation
- Lateral Erosion and Channel Avulsions
- Local Scour and Deposition at Road Crossings

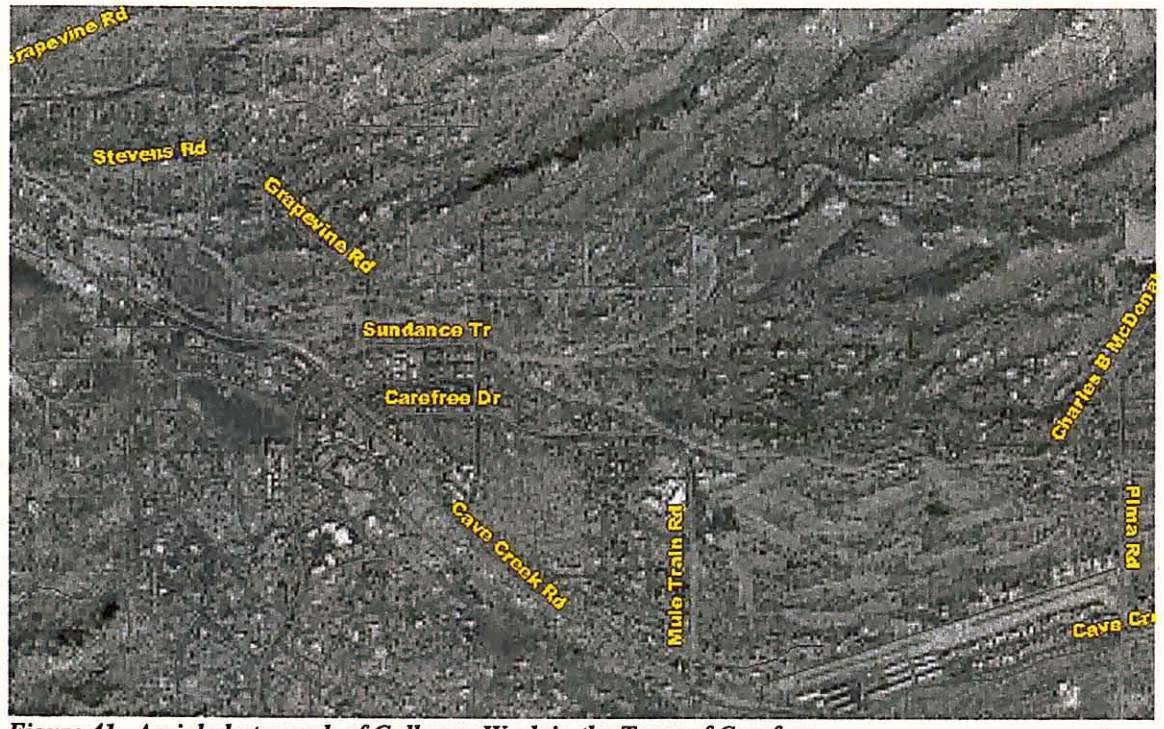


Figure 41. Aerial photograph of Galloway Wash in the Town of Carefree.

The following best management practices are recommended to address the sedimentation and erosion hazards on Galloway Wash:

- Erosion setbacks
- Erosion protection
- Floodplain encroachment
- Finished floor elevation freeboard
- Development restrictions in historical avulsion areas
- Scour protection at road crossings
- Inspection

Erosion Setbacks. Erosion setbacks should be established for all new development along Galloway Wash. Setbacks should be based on the methodologies presented in Arizona State Standard 5-96. The single best strategy for minimizing erosion related problems is to avoid development of erosion prone lands.

Erosion Protection. Use of erosion protection should be avoided except where necessary to protect existing structures and where no reasonable alternatives are available. Erosion protection structures should be designed for the 100-year event and should be sealed by an Arizona-registered professional engineer. The engineer of record should certify that the erosion protection will not adversely impact any adjacent upstream or downstream properties. There are numerous examples of inadequate or failing bank protection along Galloway Wash, some of which is constructed in a manner that will accelerate erosion on downstream or adjacent properties.

Floodplain Encroachment. New development should be limited to the floodway fringe. No construction or development within the main channel or floodway should be permitted. Most of the existing sedimentation problems along Galloway Wash can be traced to development that is too close to the floodplain corridor.

Finished Floor Elevation Freeboard. Galloway Wash is subject to cyclical increases (aggradation) or decreases (degradation) in bed elevation. Changes in bed elevation directly impact the 100-year water surface elevation. To account for potential future increases in the 100-year water surface elevation, an additional foot of freeboard should be required for the finished floor elevation of any new structure constructed in the geologic floodplain of Galloway Wash, which is shown in Figure 42.

Development Restrictions in Historical Avulsion Areas. Several areas of historical channel avulsions were identified along Galloway Wash, as shown in Figure 43. Due to recent incision of Galloway Wash, these flow breakouts are now perched above the 100-year water surface elevation, according to the most recent floodplain delineation study for Galloway Wash. Given the potential for cyclical aggradation on Galloway Wash, developers in these areas should be advised regarding the potential for potential re-occupation of these floodplains and should take appropriate steps to protect their development.

Scour Protection at Road Crossings. Some degree of scour was observed on the downstream sides of most road crossings on Galloway Wash. Road crossings should be designed with scour protection and energy dissipation structures to reduce the potential for formation of scour holes.

Inspection. The Town of Carefree should implement a regular inspection program for Galloway Wash. The inspection should include survey of the channel inverts in areas where historical avulsions occurred, the channel inverts where the finished floor elevations of homes are located at or near the 100-year water surface elevation, and bank conditions for home identified as within the State Standard 5-96 Level 1 erosion setback.

Summary

The Carefree Drainage Master Plan included sedimentation engineering and geomorphic analyses to evaluate the erosion and sedimentation patterns and characteristics within the Town of Carefree. As a result of the sedimentation and geomorphic analysis, best management practices were identified and the sedimentation impacts of the recommended alternative were identified. The best management practices and recommended design modification are intended for implementation by the Town of Carefree.

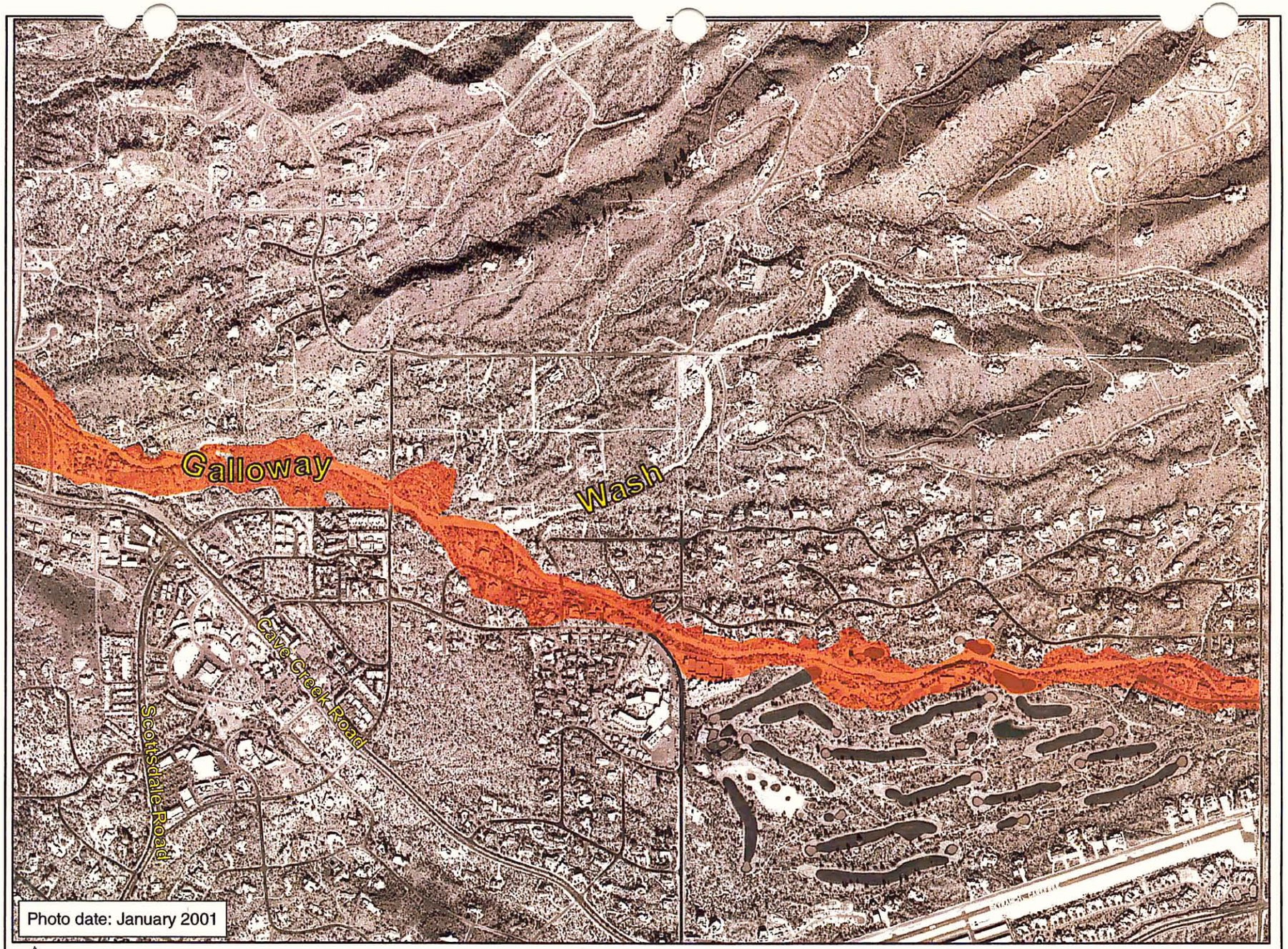


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Figure 42. Galloway Wash Geologic Floodplain

0 250500 1,000 1,500 2,000 Feet

CAREFREE ADMP

FIGURE 43

Historical Channel Avulsion Areas in Galloway Wash

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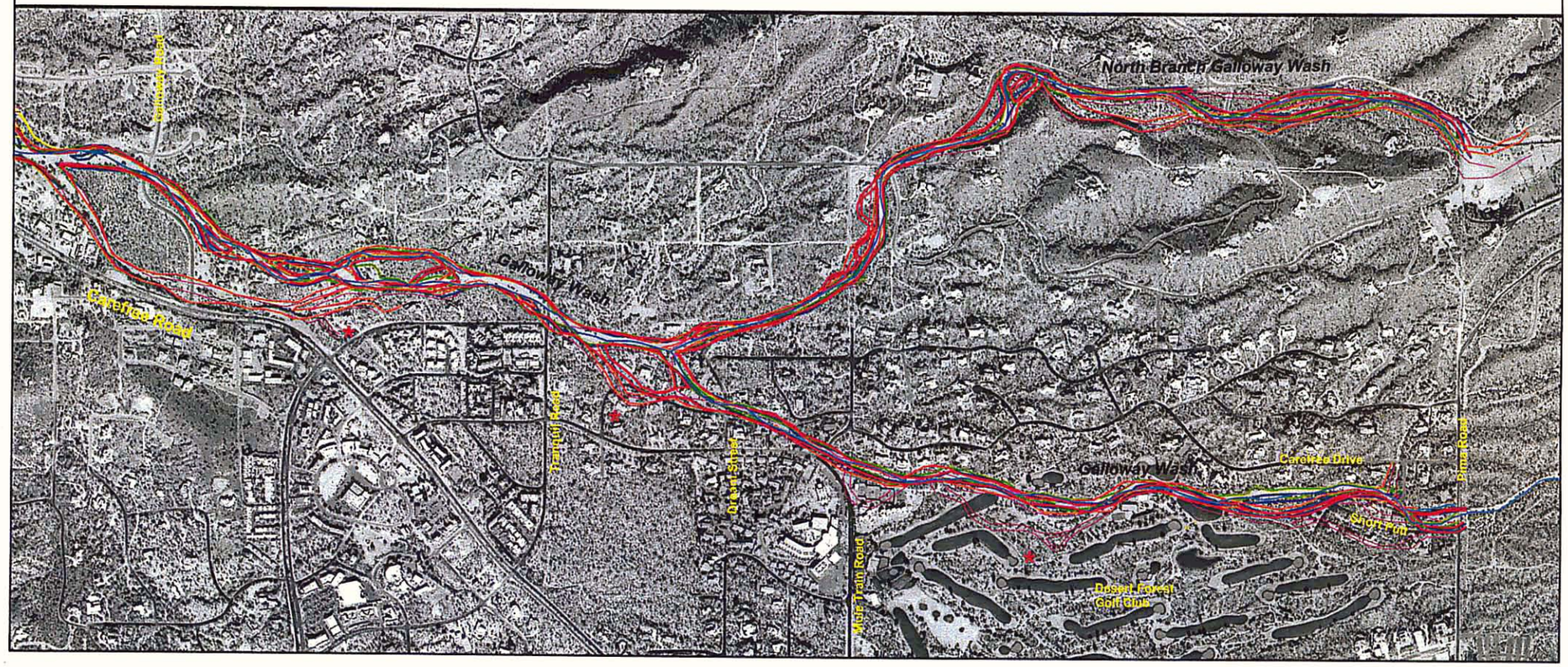
1999 Channel Bank location
1992 Channel Bank location
1985 Channel Bank location
1977 Channel Bank location
1962 Channel Bank location
1953 Channel Bank location
Historic Channel Avulsion Area