

**Title**

Trip Report: Hydrologic Field Reconnaissance Led by Robert Coache, Water Resources  
Division, Nevada Department of Natural Resources and Conservation, April 24, 1986  
Technical Reference Document

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INFORMATION ONLY

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DATE: May 7, 1986  
 TO: J. Younker  
 FROM: M. Giampaoli

SUBJECT: Trip Report: Hydrologic Field Reconnaissance Led by Robert Coache, Water Resources Division, Nevada Department of Natural Resources and Conservation, April 24, 1986.

Attached are an itinerary (Enclosure 1) and map (Enclosure 2(a) and (b)) that detail the route traveled during the field reconnaissance of the southwestern portion of the geohydrologic study area. This report and a letter will be sent to Mr. Coache, requesting that he verify the data contained within this report. Upon receipt of the signed and dated letter, this trip report will become a reference document for Chapter 3 of the SCP. All records of the correspondence with Mr. Coache and the Water Resources Division, Las Vegas Branch Office are located in the SCP Project File.

MEG:tah

cc w/encl:  
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 E. Hughes  
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 Project File 1.2.5.2.2.2.4.7

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ENCLOSURE 1

FIELD RECONNAISSANCE ITINERARY

APRIL 24, 1986

6:00 a.m. Depart Las Vegas via US 95 North.

En Route Observed locations of hydrographic boundaries for areas 212 and 211 from US 95 (refer to maps a and b).

Stop 1 Intersection of US 95 and boundary between hydrographic regions 10 (Central) and 13 (Colorado River Basin). Rational for placement of boundary; discussion of water use in neighboring valleys and land ownership and control.

En Route Discussion of water use at Indian Springs Correctional Center. Water use by the facility is estimated to be 100 acre-feet/year. Overview of current economic development in southern Nevada and related water supply problems. Cross hydrographic boundary into Death Valley Basin from the Central Hydrographic region.

Stop 2 Community of Indian Springs. Stopped to look at well head and above ground water storage tank. Discussion of domestic water use, source and contamination problems in Indian Springs.

There is no specific information available regarding the current quality of the water that is being used. The quantity of water used in 1985 was reported to be 679.0 acre-feet. Depth and rock-type data contained in well completion reports on file with the Nevada State Engineer's Office indicate that withdrawals are made from the valley fill aquifer. Declines in the static water

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level caused a reduction in local spring discharge. In 1979, the Indian Springs Ground Water Basin was designated to give greater administrative control to the state engineer. Although the amount of water appropriated is minor, total water withdrawals, and natural discharge in the form of springs and evapotranspiration are in excess of the estimated perennial yield.

Stop 3 US 95 and Rangeline 47/48. View Yucca Mountain to the northeast. Local water users in the area are the NTS and Nellis. Water use for 1985 in the Alkali Flat Furnace Creek Ranch Basin, including the portions of the Nevada Test Site that are located within the basin boundaries, was approximately 13,000 acre-feet. Estimated water use is based on preliminary abstracts filed with the Office of the Nevada State Engineer, and NTS water withdrawal records supplied by the Reynolds Electrical and Engineering Company (ReeCo).

En Route Observe the natural spring areas along the Amargosa River (parallel to US 95). Currently, very little water is used in the NW portion of Oasis Valley. The basin was designated in 1980, to prevent overappropriation and provide greater administrative control to the state engineer. Turn around near Crystal Spring. Backtrack to the mouth of Indian Springs Canyon (turn off 1 km NE of Beatty; follow dirt road on right, NW).

Stop 4 Middle Indian Springs, developed water source. Discussion of spring development and subsequent problems with water supply.

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- Stop 5 Drive NW to Upper Indian Springs. Discussion of spring discharge variation and rehabilitation of discharge area. Plans for further ground water development, proposed pipeline, and water-mixing. Pipeline to Rhyolite supplies 4.0 gal/min. Brief overview of legal complications with water rights of Indian Springs and Beatty Springs. Backtrack SE to Lower Indian Spring.
- Stop 6 Lower Indian Spring. Observe discharge area, extent of marsh, discussion of evapotranspiration from spring-fed marsh areas. Backtrack to US 95.
- Continue SW on US 95 to Beatty. At Beatty, junction with Nevada Highway 58. Take 58 SW to Rhyolite, exit right (approximately 4.5 km) onto gravel road. Follow road (County Road 90) to Rhyolite.
- Stop 7 Rhyolite ghost town. Historical overviews of mining in Rhyolite, Bullfrog areas. Discussion of current population, water needs and supply. Return of Highway 58 via County road 90 (old rail road bed to left). Follow 58 NE to Beatty. Junction with US 95. Turn right (SE). Drive to Big Dune (approximately 30 km). At Big Dune turnoff (unmarked; Section 31 of T30 R49), go right (S) on gravel road.
- En Route Amargosa Valley/Amargosa Farm Area. Stopped at several locations to view wells; discussion of irrigation techniques. Current water use from both permitted and unpermitted wells was noted. Summary of possible overdraft problems, current ground water laws presented. Domestic wells in the area pump at rates between 10 and 40gpm, while industrial and irrigation wells produce from 100 to 800gpm. Noted Industrial Mineral Ventures (IMV)

Corporation well, storage tank and pipeline. Mr. Coache dug a shallow hole to demonstrate the nature of the soil (coarse sand) being farmed. Proceed W to County Highway 29. Turn left (S) at Junction with 29. South on 29 for 10 km to "Clay Camp" Road. Turn left (E) on Clay Camp road (refer to map).

En Route Pass ABC milling operation, clay pits. Mill to be phased out; water use will be minor after mill is phased out. Discussion of water rights for clay pits. Cross Carson Slough marsh area.

Stop 8 Crystal Reservoir. Stopped to document reservoir location and in-flow from Crystal Pool Spring via flume. The discharge measured from Crystal Pool Spring is about 178 L/S and the capacity of Crystal Reservoir is 1489 Ac-Ft. Reservoir is used for wildlife and recreational purposes; no water is withdrawn for human consumption or irrigation. Other small reservoirs with capacities much less than 40 acre-feet are located near Point of Rocks and Death Valley Junction. The reservoirs are used primarily for irrigation and milling activities.

Continue southwest to fork (approximately 1 km; near ranch house). Sharp left turn (NE), continue on road for approximately 3.2 km.

En Route Virtually all ground water withdrawals from this part of the Ash Meadows basin for irrigation purposes were made by the Preferred Equities Corporation. The land, which was previously owned by the Preferred Equities Corporation, was turned over to the Nature Conservancy during 1986, and then transferred to the Federal Government. Discussion of

Spring Meadows/PEC/Cappaert pumping and proposed developments, which were shut down by the Federal Government. Observed defunct farm areas and abandoned wells. All land and water rights currently owned by Federal Government.

Stop 9 Devils Hole. Lunch. Observed water-level monitoring equipment, noted dimension of the surface area of Devils Hole Pool. Summary of current maintenance costs and status of plans to continue water-level monitoring. Depart Devils Hole 12:45 p.m.

En Route Continue NE on dirt road onto playa; town of Crystal visible ahead. Continue to fork, keep left (WNW; follow power lines). Note: road is not on any map currently available. Location sketched on map is approximate. Follow road to second stand of trees (willows and cottonwoods on left (S) side of road. Pull-off on left side of road.

Stop 10 Fairbanks Spring. Measured discharge at USGS spring discharge gaging station and noted size of spring pool, and surrounding marsh area. Observed pupfish and gastropods, both of which are endangered species.

Backtrack to first stand of trees. Turn right onto unimproved dirt road, drive back into Carson Slough and large marsh.

Stop 11 Marsh area fed by Fairbanks Spring, Rogers Spring and Longstreet Spring covers this portion of Carson Slough with several feet of standing water. Verified that marsh area is shown on USGS 15 Minute Ash Meadows Quadrangle Map.

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Backtrack to main road. Proceed SE on gravel road (approximately 10 km).

En Route Pass Devils Hole (landmark). At junction (fork) 1.5 km past Devils Hole, keep left. Pass old Ash Meadows Hunting Lodge. Road turns to SW. Continue to junctions with improved gravel road. At junction make a sharp right turn (ESE). This highway was built by Spring Meadows, Inc. as a main artery from the Ash Meadows project to Pahrump. Road is paved for last few miles into Pahrump.

En Route Discussion of water use in Pahrump both current and projected. Explanation and historical overview of land use and development in Pahrump, and relationship to water-permit process. Depart Pahrump via Nevada 160/159.

En Route Summary of field trip.  
Arrive Las Vegas 5:00 p.m.

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Science Applications International Corporation

LR7-RTB-MEG-005

January 13, 1987

Mr. Robert Coache  
Nevada Dept. of Conservation and Natural Resources  
Division of Water Resources  
1515 E. Tropicana  
Las Vegas, NV 89119

SUBJECT: Trip Report: Hydrologic Field Reconnaissance

Dear Mr. Coache:

The purpose of this letter is to confirm the information that MaryEllen Giampaoli obtained from you during the field trips on April 24, 1986 and December 30, 1986. Please review the enclosed reports and correct any errors. The April 24 field trip report will be used as a reference for the Site Characterization Plan (SCP); the December 30 trip report is for internal use only. The information is as follows:

1. Trip report for the April 24, 1986 field trip (Enclosure 1) and maps to locate trip stops (Enclosures 2a and 2b).
2. Trip report for the December 30, 1986 field trip (Enclosure A) and map to locate trip stops (Enclosure B).
3. Enclosures C and D on the progress and activities of the drill-site evaluation and selection process as part of the Nevada Carbonate Aquifer Program.

Please sign this letter after you have reviewed the enclosed information and return it to me. If you have any questions, I can be reached at 295-1461.

Sincerely,

SCIENCE APPLICATIONS  
INTERNATIONAL CORPORATION

Jean L. Younker, Manager  
Regulatory Technical Branch

JLY:lah

Mr. Coache  
L87-RTB-MEG-005  
January 13, 1987  
Page Two

I have reviewed this document and concur with the enclosed information.



Date: 1-14-87

Robert Coache  
Hydraulic Engineer  
Southern Nevada Branch Office  
Division of Water Resources

cc:  
M. Spaeth/W. Macnabb/W. Devlin  
J. LaRiviere/R. Sweeney  
M. Foley  
M. Voegele  
S. Klein/S. Metta  
J. Donnell  
Project File 1.2.5.2.2.2.4.7

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