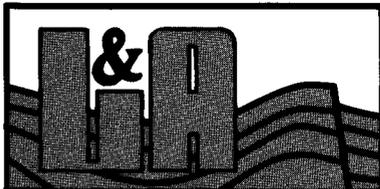


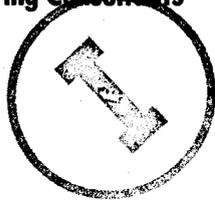
Logs 105541, 105542 &

105543



# LEIGHTON AND ASSOCIATES, INC.

Geotechnical and Environmental Engineering Consultants



August 9, 1988

Project No. 40850675-14

## RECEIVED

AUG 10 1988

Mr. G.W. Quinn  
State of Nevada  
Division of Water Resources  
Mailroom Complex  
Las Vegas, Nevada 89185

Div. of Water Resources  
Branch Office - Las Vegas, NV

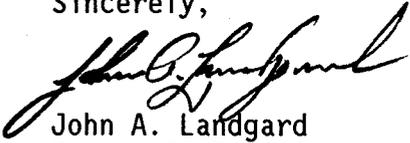
Dear Mr. Quinn:

In January, 1988, Leighton and Associates, Inc. submitted applications to your agency for permits for four extraction wells at the McCarran Airport site as part of our ongoing investigation (application numbers 51729, 51730, 51731). As we discussed in our phone call yesterday, we have drilled three additional wells intended for monitoring purposes only. We will not extract a significant amount of water and are requesting a monitoring well waiver from your agency.

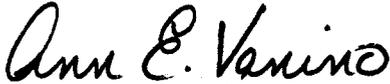
Monitoring Wells MW-122, MW-123, and MW-124 were installed by Allen Drilling, Inc. of Las Vegas, Nevada. The wells are located in NW 1/4, SW 1/4, Section 27, T21S, R61E. Each well was drilled to approximately 40 feet below grade with 10-inch diameter hollow-stem auger. They are constructed with 4-inch diameter PVC screen from approximately 10 feet to 40 feet below grade. Screen slot size is .020 inches in diameter. Blank 4 inch diameter PVC casing extends from surface grade to the slotted screen. Each well is gravel packed to approximately 2 feet above the top of the screen. The gravel pack is followed by a 2 foot thick bentonite seal. The annulus above the bentonite seal was then backfilled with cement.

The boring logs and well construction detail from each well are included as Attachment A. Also attached is a figure showing the location of the site (Figure 1) and a figure showing the monitoring well locations (Figure 2). Please call us at (714) 250-1421 if you need any further information.

Sincerely,



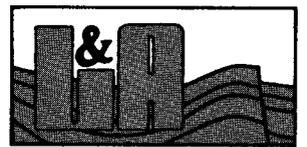
John A. Landgard  
Senior Geologist



Ann E. Vanino  
Chief, Environmental Regulations

JGL/AEV/kd

cc: R. Jack



Log 10 5543

MONITOR WELL CONSTRUCTION DETAILS

✓ 2

MW-124

PROJECT McCarran International Airport 40850675-17 SURFACE ELEV. Approx 2075 ft DATUM MSL

LOCATION Clark COUNTY T21S R61E SECTION 27 CITY OR TWP Kittling Hawk Way STREET  
 DRILLER Allen Drilling Inc. Fred II and Bill TYPE OF RIG Watson 3000  
 SAMPLER(S) None DRIVE WT. \_\_\_\_\_ DROP \_\_\_\_\_ IN. HOLE DIA. 12 IN.  
 INSPECTOR MAR DRILLING DATE 7/28/88 DRILLING METHOD Auger

WATER AND WELL DATA  
 DEPTH OF WATER-Encountered See Well Construction Sheet Completion \_\_\_\_\_  
 WELL CASING-Type \_\_\_\_\_ I.D. \_\_\_\_\_  
 WELL SCREEN-Type \_\_\_\_\_ Slot Size \_\_\_\_\_  
 SCREEN PACKING-Type \_\_\_\_\_ Size \_\_\_\_\_  
 ANNULAR SPACE SEAL \_\_\_\_\_ Method \_\_\_\_\_

Drilling WELL DETAIL	SOIL OR ROCK SAMPLE						Depth feet	DESCRIPTION OF MATERIALS					
	Interval	Sample No.	Type (USCS)	Std. Pene. Rte. Intervals	PID Reading (PPM)	Laboratory Tests		Graphic Log	color, texture, density, moisture, classification				
									And (50-40%)	Texture Proportions With (40-25%)	Some (25-10%)	Trace (10-0%)	
Start @ 3' p PID Background = 0.4 units (BG)								Surface @ surface	Brown v.f. sand with silt, moist				
Slow drilling					B.G.			5	@ 5	brown v.f. sand layered with a lt. tan silt, some pebbles, moist			
					B.G.				@ 7	v. lt tan silt, some well rounded pebbles, sl. moist			
Very slow drilling					B.G.			10	@ 10	v. lt tan sandy silt with small well rounded pebbles, dense & compact but v. friable, v. sl. moist			
					B.G.				@ 14	Caliche, white clayey powder, some pebbles, sl. damp			
Slow drilling					B.G.			15	@ 15	tan sandy silt, some large & small pebbles, v moist, cool to the touch			
					B.G.				@ 17	Caliche; white clayey powder, trace of pebbles			
					B.G.			20	@ 20	tan & grey silty v.f. sand with pebbles v moist/wet grey sands have distinct hydrocarbon odor & black discoloration			
					25.0 in hole			25	@ 25	Brown sandy silt, some large & small well rounded pebbles, cohesive, Moist			

# HYDROGEOLOGIC LOG OF BOREHOLE AND MONITOR WELL CONSTRUCTION DETAILS

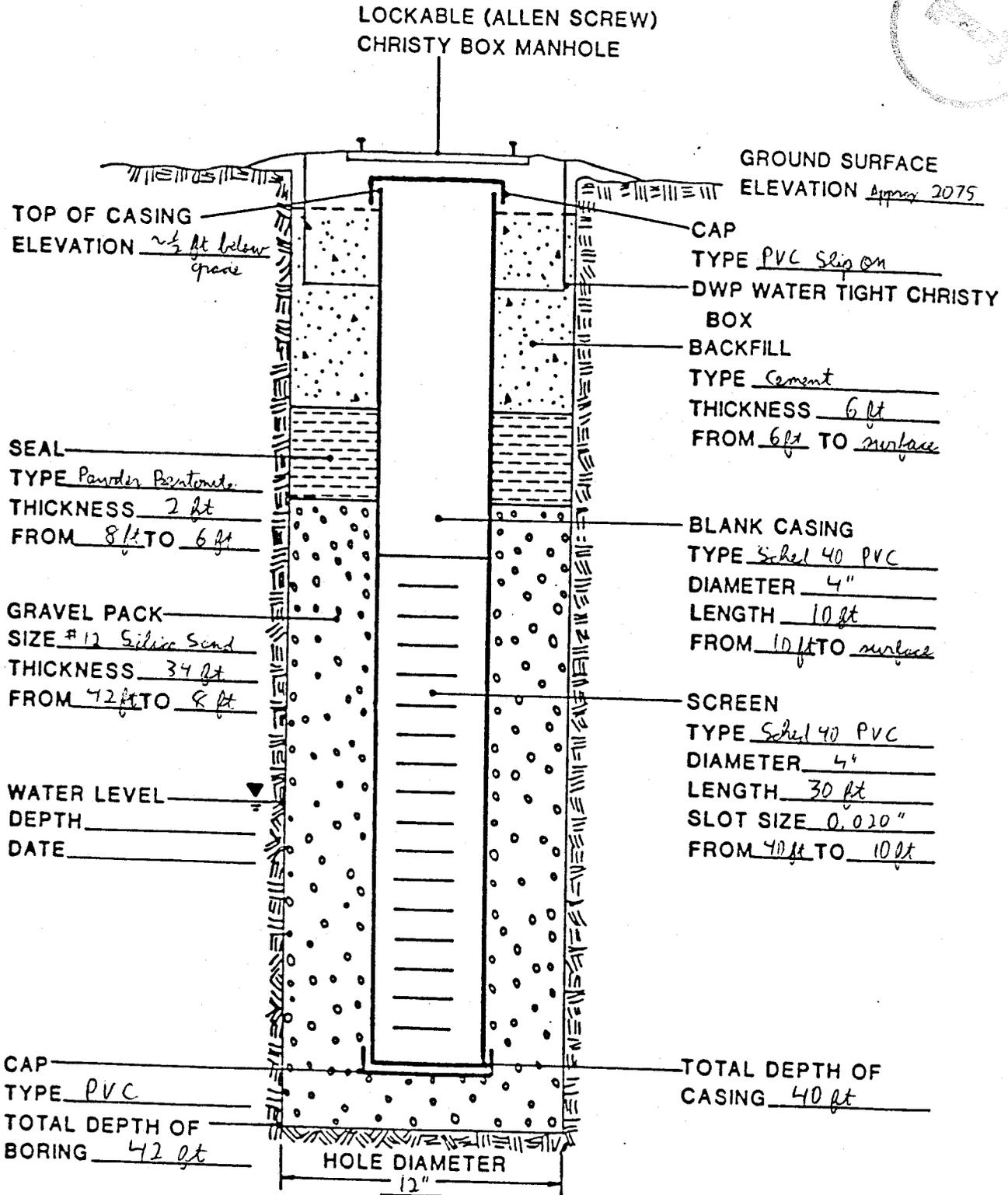
MW-124 (CONT'D)

PROJECT McCarron 40850675-17

SURFACE ELEV. Approx 2075 ft DATUM MSL

Drilling WELL DETAIL	SOIL OR ROCK SAMPLE						Depth feet	DESCRIPTION OF MATERIALS				
	Interval	Sample No.	Type (USCS)	Std. Pene. Rte. 6" Intervals	Pld Reading (FPM)	Laboratory Tests		Graphic Log	color, texture, density moisture, classification			
									And (50-40%)	With (40-25%)	Some (25-10%)	Trace (10-0%)
<p>hole too wet/coming to drill with an auger. Pushed auger in to 45 ft &amp; will use a bailer to remove the cuttings.</p> <p>Drilling stopped @ 4<sup>00</sup> p Bailing mud stopped @ 4<sup>25</sup> p</p>					25.0 in hole		25	@ 25 brown sandy silt, some large & small well rounded pebbles, cohesive, moist				
					6.2 in hole		30	@ 30 brown silty f. sand, trace of rounded & angular pebbles, sl. cohesive, v. moist - last recovery from auger bit.				
					2.0 in hole		35	From ~ 30-42 ft: lt. brown silty f. sand, trace of small pebbles, comes out as a thick mud, PID read 4 units as it was dumped from the bailer.				
							40	TD of 42 ft				

209105543



WELL CONSTRUCTION DETAIL

WELL NO. MW-124

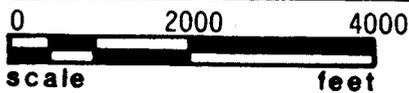
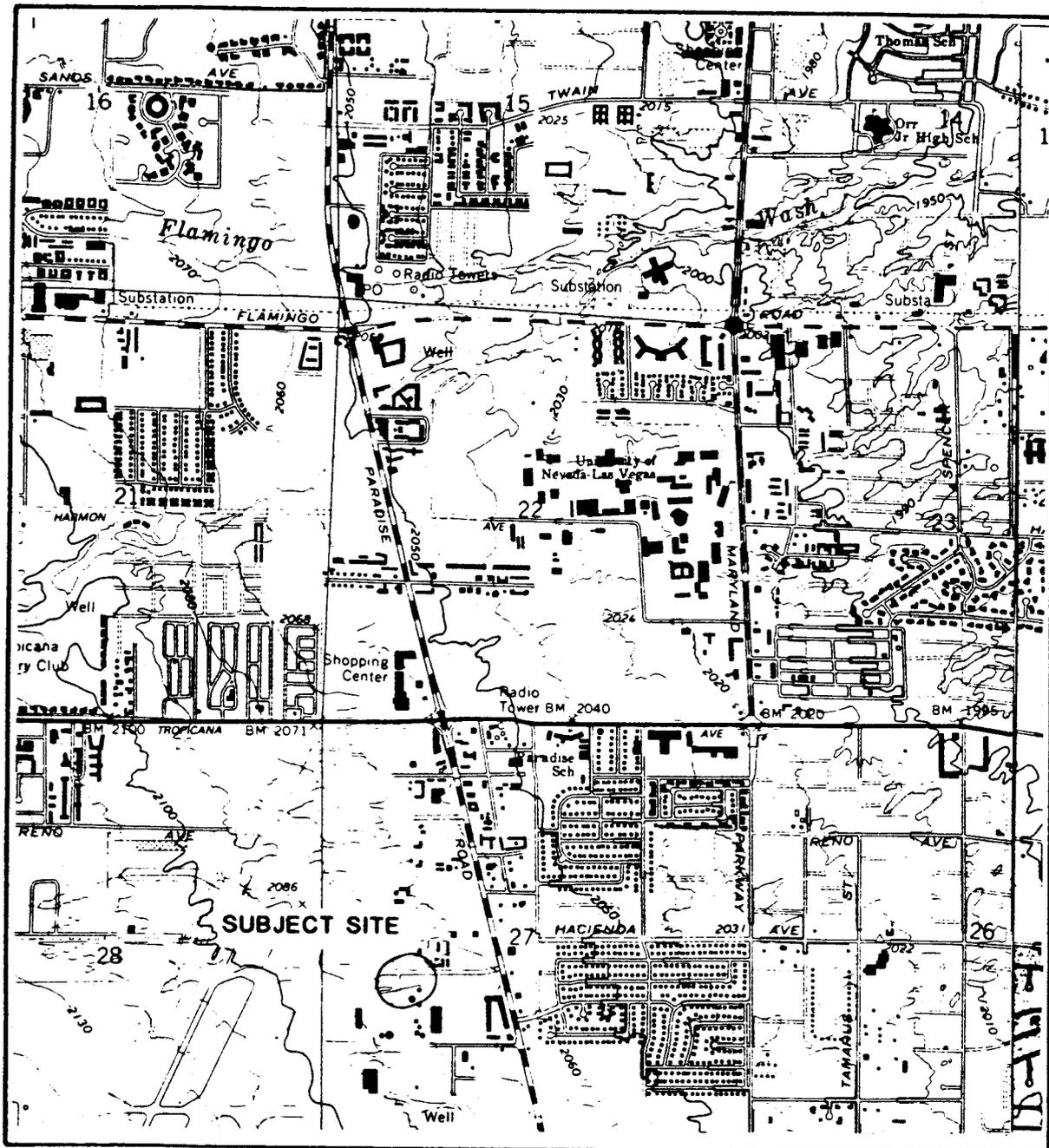
Project No. 40850675-17

Date 7/29/88

Figure No. \_\_\_\_\_



# INDEX MAP



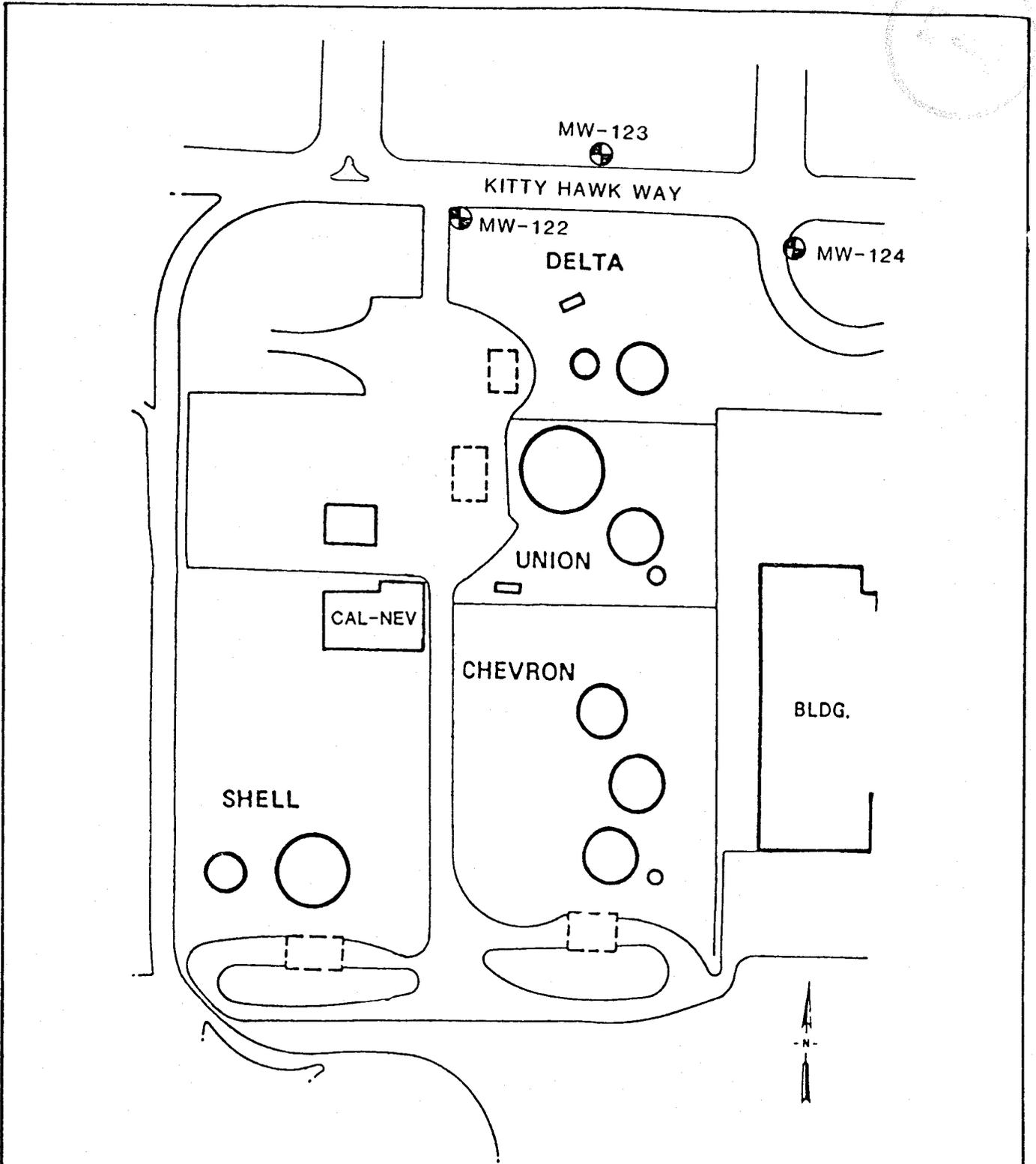
McCARRAN INTERNATIONAL AIRPORT  
FUEL TERMINAL FACILITY  
LAS VEGAS, NEVADA

Project No. 40850675-17

Figure No. 1



Base Map: U.S.G.S. - 7-1/2 Minute Las Vegas SW  
and Las Vegas SF Quadrangles



**LEGEND**

MW-122



LOCATIONS FOR MONITORING WELLS INSTALLED JULY 25-29, 1988

NOT TO SCALE

McCarran International Airport  
Las Vegas, Nevada

Project No. 40850675-17

Reviewed By MAR

Drafted By pf

Date: 8/3/88

Figure No. 2

