



WATER-RIGHT DOCKET

Lake Mead National Recreation Area

Docket No: 15

OVERTON BEACH

Preliminary Docket Information

04-27-1979: basic description of overton beach and contents of docket 15

DATE: April 27, 1979

DOCKET (FILE) TITLE _____

REGION Western AREA Lake Mead National Recreation Area

SITE Overton Beach

STATE Nevada COUNTY Clark DOCKET NO. WR #15

LOCATION NW 1/4 NE 1/4, Sec. 23, T17S, R68E

REGIONAL BASIN _____ LOCAL BASIN _____

ACQUIRED BY Reservation

APPLICATION _____ PERMIT _____ CERTIFICATE _____

ACTION DUE _____ PRIORITY _____ RESERVATION October 8, 1964

QUANTITY _____ USE Public Supply, Domestic

STATUS Active SOURCE Surface Water

REMARKS Hydrologic Unit #15010005

NARRATIVE:

In conjunction with testimony in Arizona v. California, an irrigation study of the Overton Beach area was made. Map NRA-LM 6985, prepared during the study in December, 1958, showed that an extensive recreation development was contemplated, with concessionaire's store and cafe, trailer village, and guest units. However, the only items which appear to have actually existed at that time were a boat dock and a well. There is no other record of this well in the docket to indicate date of drilling or nature of use.

In 1964 the Park Service contracted with Patrick Thompson to drill another well in the Overton Beach area. The well was completed on November 11, 1964, and was drilled to a depth of 175 feet. A pump-drawdown test was conducted on the well several days later, which showed the water level stabilized at 120 feet below ground surface datum after being pumped at a rate of 80 gpm for 24 hours.

By 1966 the Overton Beach area was fully developed. In that year the Service made water analyses for the well and for Lake Mead. It was determined that the well water was chemically unsuitable for use, and the area converted to water directly drawn from Lake Mead. As of January 1977 the area consisted of a trailer village, store and cafe, boat dock and campground, all supplied with water from the lake.

Compiled by K. Kidder/T. Kern

Approved by _____

P. _____

WELL LOG AND REPORT TO THE STATE ENGINEER OF NEVADA

PLEASE COMPLETE THIS FORM IN ITS ENTIRETY

Log No.
 Rec. 19
 Well No.
 Permit No.
Do not fill in

Owner National Park Service Driller Patrick H. Thompson
 Address Boulder City, Nevada Address Las Vegas, Nevada Lic. No. 192
 Location of well: $\frac{1}{4}$ Sec. $\frac{1}{4}$ T. N/S, R. E, in Clark County
 or overton
 Water will be used for commercial Total depth of well 175'
 Size of drilled hole 12", 0-53' 8", 53-175' Weight of casing per linear foot 28.55#
 Thickness of casing .322 Temp. of water cool
 Diameter and length of casing Diameter 8 5/8 O.D. Length - 143'
 (Casing 12" in diameter and under give inside diameter; casing 12" in diameter give outside diameter.)
 If flowing well give flow in c.f.s. or g.p.m. and pressure
 If nonflowing well give depth of standing water from surface 97.5'
 If flowing well describe control works
 (Type and size of valve, etc.)
 Date of commencement of well 11-2-64 Date of completion of well 11-11-64
 Type of well rig Cable tool

LOG OF FORMATIONS

From feet	To feet	Thickness feet	Type of material
0	72	72	Sand and gravel
72	79	7	Gravel
79	108	29	Cemented gravel
108	113	5	Loose gravel (water)
113	119	6	Red sand
119	123	4	Red clay
123	132	9	Brown sand
132	143	11	Sand and gravel (water)
143	150	7	Coarse sand
150	175	25	Red sand

Water-bearing Formation, Casing Perforations, Etc.

Chief aquifer (water-bearing formation)

from 132 to 143 ft.Other aquifers as noted
in log.First water at 108 feet.Casing perforated
from 133 to 143 ft.Size of perforations
slot size #40
well screen

(OVER)



Diam. casing	From feet	To feet	Length	"Remarks"—Seals, Grouting, Etc.
5 O.D.	plus 1	143	144'	Cemented to 50'

80 GPM from 120'.
Well was plugged back to 143'.

This image shows a full page of primary-ruled notebook paper. It features multiple sets of horizontal lines designed for teaching handwriting. Each set consists of three lines: a solid top line, a dashed middle line, and a solid bottom line. These sets are repeated vertically down the entire page, providing ample space for practicing letter formation and alignment. The paper is otherwise blank, with no margins or additional markings.

3215 CINDER LANE

870-1415

PATRICK H. THOMPSON
W A T E R S Y S T E M S
Johnston Vertical Pumps Well Drilling and Casing
LAS VEGAS, NEVADA

24 HOUR PRODUCTION TEST OF WELL AT OVERTON BEACH**CONTRACT NO. 14-10-0304-661****DATE OF TEST - NOVEMBER 19, 1964**

TIME	GPM	WATER LEVEL-FT.
10:45	0	97.50
10:50	80	112.0
10:55	80	113.0
11:00	80	114.50
11:05	80	114.50
11:10	80	114.50
11:15	80	115.30
11:20	80	116.0
11:25	80	116.0
11:30	80	116.0
11:35	80	116.0
11:40	80	116.0
11:45	80	116.0
11:50	80	116.0
11:55	80	116.0
12:00	80	116.0
12:30	80	116.0
13:00	80	116.50
13:30	80	117.50
14:00	80	117.75
14:30	80	118.0
15:00	80	118.50
15:30	80	119.0
16:00	80	119.50
16:30	80	119.75
17:00	80	120.0
17:30	80	119.75
18:00	80	120.0
18:30	80	120.0
19:00	80	120.0
19:30	80	120.0
20:00	80	120.0
20:30	80	120.0
21:00	80	120.0
21:30	80	120.0
22:00	80	120.0
22:30	80	120.0
23:00	80	120.0
23:30	80	120.0

3215 CINDER LANE

870-1415

PATRICK H. THOMPSON
W A T E R S Y S T E M S
Johnston Vertical Pumps Well Drilling and Casing
LAS VEGAS, NEVADA

(con.)

TIME	GPM	WATERLEVEL-Ft.
24:00	80	120.0
00:30	80	120.0
01:00	80	120.0
01:30	80	120.0
02:00	80	120.0
02:30	80	120.0
03:00	80	120.0
03:30	80	120.0
04:00	80	120.0
04:30	80	120.0
05:00	80	120.0
05:30	80	120.0
06:00	80	120.0
06:30	80	120.0
07:00	80	120.0
07:30	80	120.0
08:00	80	120.0
08:30	80	120.0
09:00	80	120.0
09:30	80	120.0
10:00	80	120.0
10:30	80	120.0
10:45	80	120.0

3215 CINDER LANE

870-1415

PATRICK H. THOMPSON
W A T E R S Y S T E M S
Johnston Vertical Pumps Well Drilling and Casing
LAS VEGAS, NEVADA

TIME RECOVERY TEST OF WELL AT OVERTON BEACH

CONTRACT NO. 14-10-0304-661

DATE OF TEST - NOVEMBER 19, 1964

TIME	WATER LEVEL - FEET	REMARKS
18:10	120.0	Shut down pump
18:15	98.33	
18:20	98.0	
18:25	97.90	
18:30	97.80	
18:35	97.75	
18:40	97.66	
18:45	97.66	
18:50	97.64	
18:55	97.58	
19:00	97.54	
19:05	97.50	Full recovery
19:10	97.54	Domestic pump started in well approximately 10' away.

Supporting Hydro Data

Geological Survey
Experimental form: gw-gw (1966)

UNITED STATES DEPARTMENT OF THE INTERIOR
Ground Water Analysis

Water Resources Division

State Nevada 33 County Clark 11 Latitude 36 00 00 N Longitude 115 00 00 W Seq. No. 19 Date coll. 01 31 66

Local well No. a Overton Landing Owner b Nat'l. Park Service Collected by _____ Lab. Anal. A-1 + Tot Fe Project No. NPS

Well No. _____ Appearance Wc _____ Wa _____ Lab. No. 159045 Sampling depth 26 29 Type c 30

Kx10 ⁶ 23.5 T 3481 R KCl 69.3 (5020) 15020 31 35		SO ₄ 10 → 250 → 10 ml 2060 4.18 68 72 0.00 4.18 -0.07 4.11		Fe f 1.88 25 ml 0.29 Total ml Abs 42 45	
pH 7.1 7.1 36 38		Temperature °F 43 39 41		Dissol. ml Abs	
SiO ₂ f 50.8 Abs 849 42 44		Cl 25 ml 516 73 78 31.55 18.60 12.95 -0.05 12.90		Mn f Total ml Abs 46 49	
Ca 4.05 5 ml 4.05 (405) 405 45 49		Mg · AgNO ₃ 1.0 14.56		Dissol. ml Abs	
Mg ml 216 50 53		Source of data d 79 Card Q 80 Q		Cu ml 50 52	
Subtotal cations (Ca, Mg) 39.4		F 5 ml Abs 1.75 0.111 X 2 = 0.222 (2.2) 26 28 0.12		Pb ml 53 54	
Na 50500 0-100 ml 55.1 X 10 (551) 551 54 58		NO ₃ 25 ml Abs 4.4 2.4 ml 0.15 X 10 = 0.036 (4.4) 29 32 1.7		Zn ml 55 57	
K 50 → 250 0-10 ml 6.99 (699) 699 59 61		PO ₄ f Abs Abs % 33 35		Subtotal cations (Al, Fe, Mn, Cu, Pb, Zn)	
Subtotal cations (Ca, Mg, Na, K) 62.8		HPO ₄ % H ₂ PO ₄		Subtotal cations (Ca, Mg, Na, K)	
HCO ₃ 23.10 54 ml 8.30 14.80 59 63		Total anions 13.13		Total cations	
CO ₂ 50 ml 0 10 0.00 66 67		B 1.33 f 2.3 Abs 1.712 20.511 (2.3) 38 38		Dissolved solids 47.4546 (4250) 14250 Residue at 180° 47.41210 ml 58 63 Dish No. 11-12 145 4020 Calculated 64 69	
Remarks and explanation on other side		Al ml 39 41		Hardness 18.10 1900 1900 Ca, Mg 7.60 5 ml 70 73 Noncarbonate 1660 1660 Color 5 78-79 5 Card R 80 R	

Provisional records, subject to revision

State <u>59045</u>		County	Lat.	Long.	Seq. No.	Date	Samp. depth	c
--------------------	--	--------	------	-------	----------	------	-------------	---

Remarks: 100 ml

KVELDAHL

6.00
1.00
5.00
- .70
4.30

B2 = 0.70
0.70

(44)

Br _____ ml	26	28	Radiochemical	
			Alpha (pc/l)	55 57
I _____ ml	29	31	Beta (pc/l)	58 60
Alk. as CaCO ₃	32	35	Ra (pc/l)	61 63
Free CO ₂	36	38	U (ug/l)	64 66
SAR	39	41	Other data (67-79) ^e	
RSC	42	44		
Organics				
MBAS (ABS) _____ ml	45	47		
	48	50		
	51	54		

Provisional records, subject to revision.

JOE O'NEILL E. F. WILLIAMS

Chemist _____ Checked by _____

APR 14 1966 Date transmitted _____

Punched by _____ Verified _____

a Master card A (21-34)

b Master card A (52-66)

c Type:

1. Pumped	4. Spigot
2. Bucket	5. Bailer
3. Forest	6. Special

d Source of data:

1. USGS	5. Industrial
2. UPHS	6. Private
3. State Health	7. Educational
4. State	

e Indicate constituent and card columns.

Card S _____ 80 S

Geological Survey
Experimental form: gw-sw (1966)

UNITED STATES DEPARTMENT OF THE INTERIOR
Surface Water Analysis

A-1 - Fe Sol
+ Tot Fe

Water Resource Division

River basin Colorado Sta. Ident. No. 1 Date of collection Jan. 31, 1966 Frequency a M 0 D 31 Y 66
Location Overton Landing - Lake Mead Nat'l. Rec. Area, Nevada County Clark Discharge (cfs) 15 21
Source: Lake Mead Owner: NPS Collected by Lab. No. 159040 Project No. NPS Appearance Wc Wa Gage height (ft) Time

ppm		epm		ppm		epm	
SiO ₂ f 5.65 ml	1.1			HCO ₃ 50 ml	33.25	25.60	7.65
Al f 1.88 ml	0.03			CO ₃ 50 ml	0.10	0.00	
Abs (Al + Fe)				SO ₄ f 50 ml	2.82	5.87	
Total 25 ml Abs 0.17	0.03			Cl 25 ml	88	2.48	
Dissolved				Mg · AgNO ₃ 4.0	69	74	
Mn f				F 1.2 ml	0.04	0.02	
Total				Sample No. e	79		
Dissolved				Card No. 1	80	1	
Ca 10 ml	1.77	88		NO ₃ 11.5 f 10 ml	2.3	0.04	
Mg	2.6			PO ₄ f			
Na 25 ml	59.1	98		Abs			
Reading				HPO ₄			
K 48.7	49	4.9		H ₂ PO ₄			
Li				Total cations	10.95		
Reading				Total anions		11.95	

B 1.33 f 1 ml	Abs 2.07	0.28
Dissolved solids: 100 ml	49.9323	713
Residue at 180°C	49.8610	713
Dish No. N-18	0.0713	
Calculated	676	676
Hardness:		
Ca, Mg 25 ml	8.20	328
Noncarbonate	302	202
Acidity H+1		
SAR	2.3	2.3
Kx10 ⁶	23.5	345
R KCl 329	1060	11060
pH	8.0	8.0
Color	10	10
Oxygen cons. filtered or DO		
Oxygen cons. unfiltered or BOD		
Organics: Phenol		
Organics: MBAS		
Temperature °F	77-78	
Sample No. e	79	
Card No. 2	80	2
Chemist	E. F. WILLIAMS	
Date began		
Completed		
Punched by		
Verified by		
Remarks and explanation (other side)		

Provisional records, subject to revision.

Docket No 15

SW. Type Analysis A-1 U.S. GEOLOGICAL SURVEY ANALYTICAL NOTES Project NPS Collector M. C. Ott
 State Nevada County Clark City (at or near) Overton Landing
 Latitude-Longitude _____ Well No. _____ Date Collected 1/21/65
 Owner Concessionaire - Overton Landing, Nev. Date Drilled _____ Cased to _____ Depth (ft) 175 Diam. (in) _____

pH 7.3 Temp (°F) _____
 Hardness as CaCO₃ 588
 Total _____
 Noncarbonate 447
 S.A.R. 2.7
 %Na 36 T/af 1.45
 Density (g/ml) _____

W.B.F. _____
 Producing Intervals from 133' to 143'

W.L. _____

Sampled after Pumping (Time) _____

Yield ? 20 GPM

Point of Collection _____

Appearance _____

Use _____

Remarks: Source: Well

Chemist Kim Ong Checked By E.F.W.

Date Completed MAR 31 1965

Date Transmitted _____

Laboratory No. 56335

Spec. Cond. (micromhos at 25°C): T <u>23.5</u> R <u>349</u> R Sample <u>205</u> (170) <u>1,700</u>			
		PPM	EPM
Silica	f <u>49.6</u> vol <u>10</u> (38) <u>38</u>		
	o.d. <u>0.788</u>		
Calcium	<u>2.66</u> EPM TH <u>11.76</u>		
	<u>0.00</u>		
	vol <u>10</u> (133) <u>133</u> <u>6.64</u>		
Magnesium	<u>31.95</u>		
	<u>17.25</u>		
	vol <u>25</u> (62) <u>62</u> <u>5.12</u>		
Sodium	vol <u>15</u> → <u>50</u>		
	<u>0-100</u> range <u>55.2</u> <u>55.2</u>		
	<u>162</u> <u>46.0</u> × <u>3.333</u> (153) <u>153</u> <u>6.66</u>		
Potassium	vol <u>25</u> → <u>50</u>		
	<u>0-10</u> range <u>59.5</u> <u>59.5</u> (12) <u>12</u> <u>0.31</u>		
Na+K (Calculated)			
Iron	f <u>1.92</u> vol <u>25</u>		
	In sol.: o.d. _____		
Total:	o.d. <u>0.228</u> (0.44) <u>0.44</u>		
TOTAL CATIONS		<u>18.73</u>	
Bicarbonate	<u>8.60</u> (172) <u>172</u> <u>2.82</u>		
	<u>0.00</u>		
	vol <u>50</u> <u>8.60</u>		
Carbonate	(0) <u>0</u> <u>0.00</u>		
Sulfate	<u>3.14</u>		
	<u>0.00</u>		
	vol <u>20</u> → <u>200</u> (614) <u>614</u> <u>12.78</u>		
	<u>600</u> <u>3.14</u> <u>0.07</u> <u>3.07</u>		
Chloride	<u>22.35</u>		
	<u>19.60</u>		
	vol <u>25</u> <u>2.75</u> (108) <u>108</u> <u>3.05</u>		
	<u>AgNO₃</u> <u>1.0</u> <u>0.05</u> <u>2.70</u>		
Fluoride	vol <u>10</u>		
	o.d. <u>1.110</u> (1.3) <u>1.3</u> <u>0.07</u>		
Nitrate	f <u>22.9</u> vol <u>5</u>		
	o.d. <u>0.272</u> (6.2) <u>6.2</u> <u>0.10</u>		
Boron	f <u>1.53</u> vol <u>1</u>		
	o.d. <u>0.586</u> (0.90) <u>0.90</u>		
Sum of Constituents		(1210) <u>1,210</u>	
Residue on Evaporation at 180°C			
	vol <u>50</u> <u>58.168</u> (1260) <u>1,260</u>		
	dish <u>X-118</u> <u>58.105</u> <u>0.0630</u>		
TOTAL ANIONS			<u>18.82</u>

These are preliminary records, subject to revision.

⑥

G.W. _____ Account 20NP
 Type Analysis A-1, no Fe soln. **USGS CHEMICAL ANALYSIS** Project 34
 State Nevada County Clark Location Overton Landing, Lake Mead Nat'l. Recreation Area
 Latitude-Longitude _____ Well No. _____ Date Collected _____
 Owner NPS, Boulder City, Nev. Date Drilled _____ Source well _____ Depth (ft) _____
 Diameter (in) _____

pH..... 6.9 Temp. (°C) _____
 Hardness as CaCO₃:
 Total, mg/L 2100
 Noncarbonate, mg/L. 1860
 Color.. 0 Sodium-adsorption ratio..... 5.7
 %Na.... 38 Tons per acre ft.... _____
 Density, g/ml at 20°C _____
 W.B.F. _____
 Producing Intervals _____
 W.L. _____
 Sampled after Pumping (Time) _____
 Yield _____
 Point of Collection _____
 Appearance _____
 Use Dom.
 Collected by G. Wohlbrandt
 Remarks: Not chlorinated.
High Potassium and Nitrate
 Chemist RLL, SWA Checked By EFW
BR
 Date Completed 2-8-68
 Date Transmitted _____
 Laboratory No. 63017

Specific Conductance, micromhos at 25°C 5,420

Concentrations in milligrams per liter (mg/L)

Silica (SiO ₂).....	<u>44</u>	Bicarbonate (HCO ₃).....	<u>296</u>
Calcium (Ca).....	<u>452</u>	Carbonate (CO ₃).....	<u>0</u>
Magnesium (Mg).....	<u>237</u>	Sulfate (SO ₄).....	<u>2240</u>
Sodium (Na).....	<u>599</u>	Chloride (Cl).....	<u>588</u>
Potassium (K).....	<u>38</u>	Fluoride (F).....	<u>2.5</u>
Na+K (Calculated).....	<u> </u>	Nitrate (NO ₃).....	<u>26</u>
Dissolved Iron (Fe)....	<u>0.01</u>	Boron (B).....	<u>2.2</u>
Total Iron (Fe).....	<u>0.65</u>	Dissolved Solids: Sum of Constituents.....	<u>4370</u>
	<u> </u>	Residue on Evaporation at 180°C.....	<u>4650</u>
	<u> </u>		

Provisional records, subject to revision.

State	County	Lat.	Long.	Seq. No.	Date	Samp. depth	c
61647 Remarks: Source: Cased well DD: 11/11/64 Depth: 175' Producing intervals from: 132' to 143' Use: Dom., Ps TH Run 5ml $\begin{array}{r} 10.20 \\ 0.00 \\ \hline 10.20 \end{array}$ (2040) CL Run 10ml 1.0 $\begin{array}{r} 5.65 \\ 0.00 \\ \hline 5.65 \\ 0.05 \\ \hline 5.60 \end{array}$ (560)							
Br _____ ml				26 28		Radiochemical	
I _____ ml				29 31		Alpha (pc/l) 55 57	
Alk. as CaCO ₃				32 35		Beta (pc/l) 58 60	
Free CO ₂				36 38		Ra (pc/l) 61 63	
SAR				39 41		U (ug/l) 64 66	
RSC				42 44		Other data (67-79)*	
Organics							
MBAS (ABS) _____ ml				45 47			
				48 50			
				51 54			
a Master card A (21-34) b Master card A (52-66) c Type: 1. Pumped 4. Spigot 2. Bucket 5. Bailer 3. Forest 6. Special d Source of data: 1. USGS 5. Industrial 2. UPHS 6. Private 3. State Health 7. Educational 4. State						e Indicate constituent and card columns Card S	

Additional records subject to revision

FORM 9-1367 (9-1960)
U. S. DEPT. OF INTERIOR
GEOLOGICAL SURVEY

ANALYTICAL STATEMENT - SW

COUNTY Clark (Nev)

79703

NPS

NO. 54731

(8)

Location 12 miles East of
Overton, Nev.

($\frac{1}{4}$ sec. = not known)

Source: (type of well) Lake Mead

Owner: NPS - Box 127

Boulder City, Nev.

Date drld _____ Cased to _____ ft

Depth _____ Diam _____

WSP _____

Water level _____ ft

Sampled after pumping _____ hrs

Yield _____ GPM (meas or est)

Pt of coll. Overton Beach ramp area.

Appearance Clear

Temp (°F) 68 Use _____

Collector _____

Chemist KO

Date completed Aug. 3, 1964

Checked by JON

Date transmitted _____

Date of collection

Recd. July 20, 1964Ignition Loss _____ Color 3

Dissolved Solids: _____

Residue at 180°C 860Calculated (Sum) 854Tons per Acre Foot 1.16Hardness as CaCO₃ 406Non-carbonate Hardness 290T. H. 39 SAR 2.6 pH 7.4

Specific Conductance _____

(microhms at 25°C) 1,300

	ppm	ppm
SiO ₂		<u>12</u>
Fe (total)		<u>0.10</u>
Ca	<u>5.29</u>	<u>106</u>
Mg	<u>2.83</u>	<u>34</u>
Na	<u>5.26</u>	<u>121</u>
K	<u>0.19</u>	<u>7.5</u>
Na+K	<u>13.57</u>	
HCO ₃	<u>2.31</u>	<u>141</u>
CO ₃	<u>0.00</u>	<u>0</u>
SO ₄	<u>8.12</u>	<u>390</u>
Cl	<u>3.19</u>	<u>113</u>
F	<u>0.02</u>	<u>0.4</u>
NO ₃	<u>0.02</u>	<u>1.1</u>
	<u>13.66</u>	<u>B 0.18</u>

Provisional records. ~~subject~~ to revision.

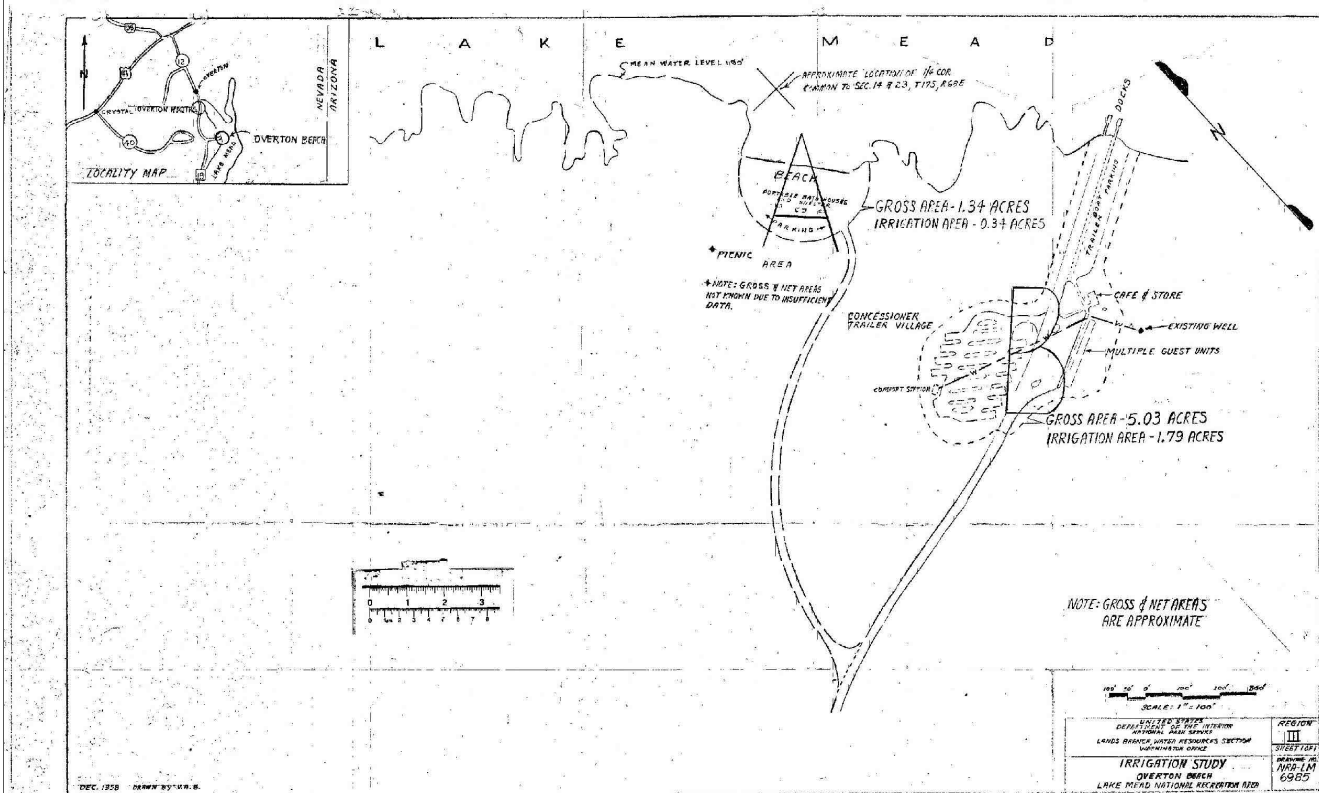
Other Supporting Information

April 1959

LAKE MEAD - OVERTON BEACH - IRRIGATION STUDY					
Location	Gross Area	Net Irrigation Area	% of Gross Area to be Irrigated	@ 5 AF/A/AN	@ 8 AF/A/AN
Beach	1.34 acres	0.34 acres	25%	1.70	2.72
Concessioner Trailer Vil- lage, Cafe & Store - Multiple Guest unit	5.03 acres	1.79 acres	36%	8.95	14.32
TOTAL	6.37 acres	2.13 acres	33%	10.65AF	17.04AF

NOTE: Gross and net areas picnic grounds not known due to insufficient data.

Derived from Drawing No. 6985



Docket Information

Number of Documents in Docket 17

Documents Dated from 12/15/1958 to 4/27/1979

Docket Compiled: 4/21/2011