THE UNIVERSITY OF ARIZONA
TUCSON

COLLEGE OF ENGINEERING
DEPARTMENT OF NUCLEAR ENGINEERING

May 29, 1961

Mr. John E. Bowyer
Senior Licensing Reviewer
Isotopes Branch
Division of Licensing and Regulation
U. S. Atomic Energy Commission
Washington 25, D. C.

Dear Mr. Bowyer:

License No. 2-756-16

The University of Arizona hereby requests the Atomic Energy Commission's approval of the proposed radioisotope burial facility described herein. A description of the general environment, topographical, geological and meteorological characteristics of the area is contained in the enclosed letter from Mr. Houston, Director of the Physical Plant. The burial site will be enclosed by a five foot, four strand barbed wire fence. In addition, the area will be clearly marked in its entire with the proper radiation warning signs. All disposal by burial will be in accordance with Title 10, Part 20.304 of the Code of Federal Regulations. The burial facility will be used when appropriate for those radioisotopes as covered under the University Broad Byproduct Materials License No. 2-756-16.

Sincerely yours,

Lynn E. Weaver, Chairman
University Radioisotope Committee

LEW/rdg
Enclosures

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FOR DIV. OF [illegible]

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THE UNIVERSITY OF ARIZONA
TUCSON

PHYSICAL PLANT
OFFICE OF THE DIRECTOR

May 23, 1961

MEMORANDUM TO: Dr. Lynn E. Weaver
Head of Department of Nuclear Engineering

REGARDING: Isotope Burial Grounds Information

As per your discussion with Mr. Trimble a few days ago, I am enclosing the following information.

1. U. S. Geological Survey Topographic Map
2. Arizona Bureau of Mines Geological Map
3. Meteorological information from the Institute of Atmospheric Physics

A personal examination of the site by Mr. Trimble indicates that there is no known population in the immediate site, except as shown in various scattered ranches throughout the area. The closest significant inhabited area is approximately five miles from the site. In general, the area is open terrain without any significant ground water run-off.

The only other factor that may affect this area being used as a radioactive burial ground may be the construction of a Titan Guided Missle Silo which is located approximately one and one-half miles south of this proposed burial ground.

If you have any further questions regarding the above information, please contact Mr. Trimble of this department.

Yours very truly,

Robert L. Houston
Director of Physical Plant

RLH:ds

Encl:

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INSTITUTE OF ATMOSPHERIC PHYSICS, UNIVERSITY OF ARIZONA,
AND THE U. S. DEPARTMENT OF COMMERCE, WEATHER BUREAU,
CLIMATOGRAPHY OF THE UNITED STATES NO. 20-2

LATITUDE 32° 34'
LONGITUDE 110° 43'
ELEV. (GROUND) 4450 feet

CLIMATOLOGICAL SUMMARY

STATION: ORACLE

STATION NO: 02-6116-6

MEANS AND EXTREMES FOR PERIOD 1893 - 1957

Month	Temperature (°F)							Estimated mean degree days**	Precipitation Totals (inches)						Estimated mean relative humidity (percent)		Mean number of days					Month
	Means			Extremes								Snow, Sleet, Hail						Temperature				
																		Max.		Min.		
	Daily maximum	Daily minimum	Monthly	Record highest	Year	Record lowest	Year		Mean	Greatest daily	Year	Mean	Maximum monthly	Year	0400 MST	1800 MST	precip. .10 inch or more	90 and above	32 and below	32 and below	0 and below	
(a)	54	53	53	54	54	53	53		54	54	54	55	55	55			54	46	46	45	45	
J	56.9	34.6	45.8	83	1927	2	1937	595	2.07	3.41	1916	3.0	26.3	1937	64	48	4	0	*	12	0	J
F	59.7	36.2	48.0	83	1957	5	1939	476	1.84	1.44	1941	2.9	16.3	1948	65	47	4	0	*	8	0	F
M	64.9	39.4	52.1	86	1934	18	1954#	400	1.61	1.92	1954	2.2	19.0	1924	58	38	3	0	0	6	0	M
A	73.5	43.2	58.4	94	1943	23	1938	198	0.78	1.40	1919	0.5	5.7	1945	51	28	2	*	0	1	0	A
M	81.8	52.2	67.0	102	1896	30	1950#	62	0.32	1.13	1944	T	1.0	1915	41	24	1	*	0	*	0	M
J	91.8	61.9	76.9	108	1929	38	1955	0	0.45	1.45	1899	T	T	1952#		22	1	20	0	0	0	J
J	92.2	67.1	79.7	105	1953#	51	1938#	0	2.81	2.22	1947	T	T	1954#	60	38	6	21	0	0	0	J
A	89.2	65.5	77.4	103	1944#	50	1938	0	3.24	2.64	1910	T	1.0	1954	72	44	7	15	0	0	0	A
S	86.4	61.1	73.8	101	1952#	39	1941	0	1.60	3.23	1954	T	T	1940#	64	37	3	9	0	0	0	S
O	77.1	51.0	64.0	96	1934	29	1956#	62	0.94	2.10	1914	T	0.3	1948	55	39	2	1	0	*	0	O
N	66.2	41.9	54.0	88	1916	14	1931	330	1.53	2.85	1931	0.8	10.0	1931#	57	42	2	0	0	3	0	N
D	57.8	35.9	46.9	79	1933#	8	1954	561	2.16	4.30	1923	2.2	24.0	1915	67	53	4	0	*	10	0	D
Year	74.8	49.3	62.1	108	June 1929	2	Jan. 1937	2684	19.35	4.30	Dec. 1923	11.6	26.3	Jan. 1937	58	38	39	72	*	40	0	Year

(a) Average length of record, years.

T Trace, or amount too small to measure

** Base 65° F.

Also on earlier date, month, or year

* Less than one half

CLIMATE OF ORACLE, ARIZONA

Oracle is located at an elevation of 4450 feet in the beautiful desert country of southeastern Arizona. Towering over the town to the south are the stately pine-covered, Santa Catalina Mountains, reaching a height of 9185 feet on Mt. Lemmon. The terrain slopes gently downward to the east, west, and north of Oracle, with the San Pedro Valley lying ten miles to the east, the Santa Cruz Valley, thirty miles to the west, and the Gila River, twenty miles to the north. Across the San Pedro Valley, about twenty miles from Oracle, the Galiuro Mountains rise above 7000 feet. The prevailing vegetation types in the area are mesquite grass, palo verde, and cacti at lower elevations and chaparral and oak woodland in the Catalina foothills. Stands of ponderosa pine are common above 6500 feet in the Catalina and Galiuro Mountains.

The mountains to the south have a marked effect on the climate of Oracle, particularly on the amount of precipitation that it receives each year. Like most towns in Arizona, Oracle has two rainy seasons, one in winter and the other in summer. During both periods, but especially in winter, the prevailing air flow is upslope. Since such flow tends to increase precipitation, Oracle receives annual amounts that are between fifty and one hundred percent greater than those received in the lower lying regions to the east and west. Winter storms, normally originating in the North Pacific Ocean, cross the continent from west to east. They usually bring only gentle, widespread showers to Arizona. However, the intensity of these showers can occasionally approach that of thunderstorms. For example, on December 10, 1923, 4.30 inches of precipitation were reported at Oracle. More than a fourth of this fell as snow.

In summer, Arizona is affected by a strong flow of moist, unstable air from the Gulf of Mexico. Numerous afternoon and evening showers and thundershowers develop in this air as it moves northward over the strongly heated land surface. Precipitation is normally heaviest in mountainous country, particularly on the windward, or southern, side of the larger mountain ranges of southeastern Arizona. Following this reasoning, it might be expected that summer rains at Oracle would be reduced because of its position on the leeward side of the Catalina Mountains. This is true to a certain extent, however, on most midsummer days, a part of the moist air flows down the San Pedro Valley, bypassing the Catalinas, and approaches Oracle upslope from the southeast and east. It is also possible for storms to spread out over the town directly from the Catalinas.

Because of its location and its elevation of about 4450 feet, Oracle has a delightful thermal climate. In summer, average temperatures range from the middle sixties in the early morning to the low nineties in the afternoon. Readings above 100 degrees are quite rare, and when they do occur they are always associated with very dry air. It is not unusual for the highest temperature on some summer days to fall below ninety degrees.

(continued on the last page)

AVERAGE MONTHLY TEMPERATURES (°F) FOR ORACLE, ARIZONA

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Annual
1893	49.4	49.5	50.4	60.6	67.7	81.0	79.2	75.7	71.9	64.0	51.3	49.2	62.5
1894	42.3	42.8	51.4	62.2	71.4	75.1	81.3	77.1	73.6	66.5	60.5	49.5	62.8
1895	46.0	47.9	55.4	63.0	71.3	78.6	80.8	77.8	74.8	63.4	49.8	44.1	62.7
1896	49.4	48.7	55.3	58.8	69.0	82.5	79.[illegible]	77.4	73.3	61.9	54.4	50.0	62.4
1897	43.2	45.3	48.7	52.3	71.9	77.1	80.7	79.5	74.3	61.7	[illegible].0		
1898	37.9	52.0	49.7	63.2	64.7	76.6	78.3	78.7	73.1	64.1	51.9	41.6	61.0
1899	44.1	45.0	53.9	60.4	63.9	74.3	77.7	75.9	76.3	61.2	54.3	47.6	61.2
1900	49.4	48.5	57.0	54.0	69.4	79.4	82.1	77.5	70.8	63.3	56.1	48.8	63.0
1901	47.0	46.3	52.4	57.9	67.8	75.4	81.3	79.1	75.2	64.4	56.7	48.4	62.7
1902	47.3	48.5	49.8	62.9	67.0	79.7	79.6	78.4	74.4	67.5	50.7	47.6	62.8
1903	46.3	41.8*	52.3	60.8*	67.4	77.9	81.0	78.4	72.7	64.3	58.8	48.8	62.5
1904	45.6	53.2	57.2	62.4	70.4	80.1	81.0*	76.7	71.8	63.1	56.3	47.5	63.8
1905	49.7	48.0	51.2			[illegible].8	82.8	79.1	74.7	65.2	51.6	41.1	
1906	45.1	48.9	52.7	58.3	67.8	80.1	80.3		73.6	63.0	56.9	48.4	
1907	45.9	54.4*	54.2	61.3	66.0	75.8	79.9	76.4	72.7				
1908							77.7	76.7	72.9	61.6	53.6		
1909	50.1	48.7	47.5	59.7	65.3	78.8			72.2	65.0	54.4		
1910		48.2	59.5					79.4*			55.1	50.4	
1911	50.0	46.8	57.5	60.8	68.3	76.9							
1912			station closed, July 1911 - July 1912						71.5	59.6	53.8	42.4	
1913	41.6	43.2	48.1	59.3	66.6	71.8	76.6*	76.0	71.5	64.4	54.1	42.8*	59.7
1914	49.1	47.5	53.4	59.8	67.0	75.8	75.3	77.5	71.9	57.0	58.0	43.1	61.3
1915	43.6	45.1	48.5		62.4	75.8	78.3	79.0	72.0	67.5		47.9	
1916	46.7	52.5	56.9	58.2	65.8	75.6	77.4	74.8	72.5	62.2	55.7	44.1	61.9
1917	44.0	47.3	49.5	55.8*	60.6*	78.9*	79.8	78.5	73.2	64.2	58.9	52.9	62.0
1918	44.3	50.3	55.0	57.3	62.9	79.7	78.7	76.7	74.5	65.5	49.3	43.0*	61.5
1919	43.8	40.5	50.2	59.9	66.5	77.5	76.0	77.0	71.4	60.3	51.4	49.7	60.6
1920	46.6												
1921													
1922						74.1	78.8	74.7	71.9	60.8		43.3	
1923						80.8	78.9	80.2	75.5		58.9	46.0	
1924	44.4	51.5	46.4	55.4	68.6								
1925	45.3	52.3	56.1	60.7	65.7	73.2	80.3	75.9	71.8	61.1	52.6	46.3	62.1
1926	42.6	51.2	53.5	57.1	66.1	77.7	79.3		74.8	67.1	57.3	44.5	
1927	52.9	51.0	51.1	58.5	67.4	75.6	81.0	76.7	72.4	56.0	59.4	43.0	62.9
1928	49.9	46.3	54.8*	station closed, April 1928 - Feb. 1929									
1929			51.8*	58.2	67.4	79.6	81.0*	77.4*	74.2*	65.5*	52.5*	52.9*	
1930	45.0*	54.2*	51.7*	63.3*	62.8*	78.2*	78.4*	75.3*	74.1*	64.5*	52.7	43.5*	62.4
1931	46.1*	48.5*	54.5*	61.9*	70.4*	77.4*	82.6*	77.3*	74.3*	67.3*	50.0*	45.3*	63.0
1932	41.2*	49.4*	54.0*	60.4*	68.0*	76.9	79.7*		77.3*	65.2*	58.3*	43.0*	
1933	44.0*	45.3*		56.4*	65.8*	79.0*		82.3*	78.0*	68.5*	55.1	53.2*	
1934	49.4*	54.6*	62.4*	67.1	75.6	76.1	82.9			[illegible]	55.9*	51.2	
1935	49.2*	49.8	51.7*	60.6*	63.5*	80.6	81.5*	76.8*	73.3*		52.4*		
1936		48.5*		65.3*		81.6	81.7*	78.8*	73.1*	64.5*	54.1*	44.8	
1937	54.7	46.5	49.1	56.7	66.2*	73.5	78.4	78.7	74.5	65.0	4.7	46.1	60.5
1938	45.6	46.8	49.1	57.5	64.9	75.0	77.6	76.6	74.3*	63.7	50.2*		
1939	44.2*	37.8	51.4	59.8	66.3	75.3	79.5	77.4	71.8	60.9	55.3	51.3*	60.9
1940	47.7	46.9	53.5	58.1	68.7	76.3	79.2	77.2	73.2	63.6	51.5	50.9	62.2
1941	46.8	50.1	50.8	52.3*	64.9	71.1	77.9	74.9	70.3	59.0	54.1	46.0	59.8
1942	46.5	43.0	47.4	54.8	62.9	73.8*	80.9	79.7	72.5	60.7	56.2	47.0	60.1
1943	48.4	52.9*	55.1	63.1	71.2	76.9	81.6	77.0	77.2	65.7	57.4	46.8	64.6
1944	45.2	43.7	48.9	56.3	66.3	74.4	80.4	81.3			50.2*	48.0	
1945	46.2	50.2	48.3	56.9*	68.2	74.8							
1946					68.1		80.3	77.1	75.0	61.5	50.4	52.2	
1947	43.5	54.6	54.8	60.9	72.0	76.7	83.0	77.2	77.9		48.0*	43.6	
1948	49.0	45.7	47.5	63.0	70.6	78.3	81.3	79.-	77.5	65.7			
1949	closed						station closed, July 1949 - Feb. 1950						
1950			53.8	61.8	64.7	74.8	75.7	76.5	71.2	69.4	55.2	50.0	
1951	43.4	48.4	50.0	56.6	65.9	73.4	82.0	77.2	74.5	64.8	50.1	43.7	60.7
1952	44.7	50.7	44.4	56.1		74.8	79.4	77.9	76.4	66.8	48.2	42.5	
1953	47.1	45.0	52.0	56.1	60.9	76.7	80.2	77.7	75.0	63.9	53.7		
1954	46.7	51.3	50.2	62.5	66.6	72.8	79.6	73.8	73.9	65.8	55.3	48.6	62.2
1955	39.8	41.0	51.1	56.2	63.7	74.0	76.5	74.5	73.6	68.0	52.2	47.4	59.7
1956	46.0	41.6	52.6	57.0	68.5	78.1	78.7	75.2	77.4	62.7	48.9	44.7	61.3
1957	45.7	53.2	51.6	55.4	64.3	77.8	79.6	76.5	77.3	65.6			
1958	43.6	49.8*	46.9	57.6*	72.4	76.-	80.9			63.1*	54.1	52.8	
1959	51.3	48.5*	55.2*	65.2*	68.4	81.9*	80.7	76.8	74.6*	66.4	56.5*	47.8	64.1
1960	41.7	43.8*	57.9										

* Average temperature missing on one through five days during the month

TOTAL PRECIPITATION (INCHES) FOR ORACLE, ARIZONA

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Annual
1893				0.00						0.05	0.78	0.68	
1894	0.92	1.99	1.87	0.03	0.26	0.01	2.81	4.10	1.11	1.44	0.00	3.82	18.36
1895	2.39	0.16	0.03	0.09	0.38	0.28	2.12	3.12	2.23	2.18	6.63	0.83	20.46
1896	1.23	0.27	1.44	0.37	0.00	0.65	2.48	3.95	2.39	4.78	0.65	1.41	19.62
1897	3.67	0.96	1.55	0.01	0.04	0.07	0.55	2.64	3.52	0.92	0.50		
1898	3.72	0.00	1.38	1.38	0.40	0.70	3.72	4.97	0.25	0.00	1.25	3.12	20.89
1899	2.35	1.85	1.16	0.32	0.00	1.99	3.23	2.92	0.48	0.28	0.59	T	15.17
1900	0.16	0.67	1.52	2.16	0.11	0.08	0.37	3.27	2.38	0.68	3.01	T	16.41
1901	3.26	5.81	1.19	0.40	0.46	0.00	3.20	0.99	0.15	1.93	0.28	T	17.67
1902	1.42	0.65	1.25	0.05	0.94	0.00	0.66	2.06	0.97	0.13	[illegible]	3.21	14.23
1903	0.23	2.75	1.66	0.00	0.80	0.31	3.60	2.73	2.81	0.00	0.00	0.19	15.08
1904	0.18	0.60	0.38	0.00	1.25	T	2.35	3.63	1.21	0.12	0.06	2.47	12.25
1905	3.99	5.25	5.77	2.42	0.00	1.21	0.48	3.37	2.14	0.03	7.80	1.66	34.12
1906	0.40	3.03	2.25	1.21	0.15	0.00	1.85	7.51	0.02	0.02	1.56	7.80	26.20
1907	3.11	0.25	2.57	0.53	1.36	0.14	4.16	5.54	T				
1908							3.58	3.76	0.76	0.98	0.94		
1909	1.49	2.41	1.49	T	0.00	0.02			2.47	0.00	0.66		
1910		0.75	0.97	0.38	T			5.32		0.27	2.16	1.12	
1911	3.59	3.13	1.25	0.68	0.00	0.84							
1912		station closed, July 1911 - July 1912						3.81	0.34	1.46	0.10	1.33	
1913	2.00	4.54	0.60	0.54	0.11	0.10	4.42	3.17	0.63	0.02	2.57	1.76	20.76
1914	0.78	1.18	1.21	0.47	0.50	1.61	3.63	3.12	0.89	3.60	0.88	9.27	27.34
1915	5.14	4.44	1.32	3.18	0.65	0.40	4.28	0.75	0.76	1.23	1.83	3.85	27.83
1916	9.14	1.64	1.58	0.81	0.00	[illegible]	4.20	[illegible]	0.94	2.21	0.00	0.40	23.41
1917	3.22	1.30	0.50	0.43	1.11	0.00	3.81	0.65	2.57	0.01	0.00	0.00	13.60
1918	2.93	1.89	1.74	0.20	0.00	0.95	2.06	1.69	0.00	0.50	2.20	4.10	18.26
1919	0.22	2.97	0.61	1.82	0.70	1.55	3.78	2.98	3.82	0.67	5.02	1.10	27.24
1920	2.48		2.90		0.10	0.40	1.45	3.37			0.00	0.10	
1921	0.35		0.25	1.30	0.00	0.00	9.39	4.85	0.00				
1922													
1923				1.05	0.00	0.00	4.29	5.73	1.00	0.07	2.75	[illegible]	
1924	0.00	0.00	4.23	0.53	0.00	0.17	1.67	1.15	0.17		0.38	1.84	
1925	0.39	0.28	0.62	0.51	0.11	0.68	[illegible]	3.35	2.54	2.14	1.06	2.25	14.99
1926	1.47	0.77	3.33	2.44	0.20	0.24	2.26		2.98	0.96	0.00	5.00	
1927	[illegible]	2.06	2.70	1.10	0.09	[illegible]	1.55	4.24	2.77	0.16	0.26	[illegible]	18.80
1928	0.22	1.58	T	station closed, Apr. 1928 - Feb. 1929									
1929			0.55	0.65	0.08	0.00	2.17	2.23	3.12	0.13	0.32	0.04	
1930	3.18	2.10	5.40	0.35	2.31	0.49	6.20	4.01	0.43	0.43	6.29		
1931	1.70	5.16	0.46	1.55	0.04	1.17	2.25	4.07	2.35	0.32	5.55	2.02	26.64
1932	1.52	2.74	0.81	1.58	0.08	0.17				1.93	0.00	2.24	
1933	7.40	0.60	0.00	1.37	0.00	0.59		2.39	1.90	0.68	0.68	0.49	
1934	0.54	0.78	0.50	0.13	0.20	T	2.07	4.88	3.19	0.12	1.04	1.83	15.08
1935	3.86	3.24	2.17	0.41	0.75	T	3.40	5.14	2.69	0.00	2.46	0.13	24.25
1936	2.60	0.83	[illegible]	T	T	0.19	1.84	3.31	2.81	0.34	1.29	2.47	17.23
1937	4.26	1.64	1.78	0.01	0.11	0.90	4.03	2.64	0.92	0.24	0.06	1.04	18.03
1938	1.50	2.16	3.10	0.57	0.27	1.46	1.82	4.13	0.78	0.03	0.31	2.22	17.78
1939	0.79	2.46	1.44	0.79	T	T	1.53	2.33	1.60	1.28	1.78	1.31	15.31
1940	0.77	3.27	0.12	1.41	0.48	1.99	1.28	2.38	2.02	0.99	4.13	5.68	24.52
1941	2.25	3.38	3.47	2.02	0.75	0.04	1.60	3.79	3.39	0.72	2.60	3.64	27.87
1942	0.83	2.76	0.78	1.94	0.00	0.00	3.21	3.02	2.10	1.03	0.00	2.03	17.72
1943	1.83	1.11	3.43	0.16	T	0.71	1.88	2.72	2.07	1.27	0.03	2.12	17.55
1944	1.08	2.05	1.84	1.03	1.14	T	1.82	1.46			3.31	1.80	
1945	2.05	0.44	1.71	0.55	0.00	0.00				1.74			
1946					T		2.07	4.66	2.65	1.26	1.77	1.35	
1947	0.24	0.27	0.03	0.02	0.25	T	3.60	1.85	2.64	2.79	1.21	1.04	13.94
1948	0.22	2.97	1.24	0.02	0.00	0.04	2.64	2.49	1.28	1.19			
1949	closed		0.58				station closed, July 1949 - Feb. 1950						
1950			1.15	0.02	0.20	0.98	4.66	2.31	0.50	T	0.10	0.01	
1951	2.56	1.08	1.28	3.85	0.25	0.00	3.44	3.21	0.96	2.16	1.59	3.68	24.06
1952	2.07	0.26	4.00	1.31	0.21	0.92	1.18	3.33	1.56	0.00	3.32	1.12	19.28
1953	0.50	0.92	1.66	0.42	0.11	0.14	4.34	1.63	0.06	0.03	0.58		
1954	1.77	1.35	4.81	0.02	0.65	0.54	4.69	3.92	4.26	0.12	0.00	0.31	24.44
1955	2.01	1.01	0.02	T	0.02	1.27	3.88	3.55	[illegible]	0.84	0.38	1.18	14.25
1956	2.05	1.75	0.00	0.67	T	0.34	3.52	2.00	0.44	1.59	0.00	0.94	13.32
1957	4.48	1.65	[illegible]	0.40	0.73	0.31	2.54	1.82	[illegible]	4.62			
1958	T	[illegible]	3.04	[illegible]	[illegible]	[illegible]	3.88	[illegible]	[illegible]	0.60	[illegible]	[illegible]	22.07
1959	[illegible]	1.56	0.22	0.14	0.00	0.18	5.41	9.43	T	4.24	0.54	[illegible]	25.43
1960	2.91	0.64	0.26										

POOR ORIGINAL

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(continued from the first page)

Winter days are characterized by a relatively small temperature range, from the middle thirties at night to the upper fifties during the day. Maximum temperatures are reduced because of Oracle's elevation, while minimum temperatures are increased because of its location in the foothills of the Catalina Mountains. The coldest and densest air tends to drain off of the mountain slopes into the valleys at night. Temperatures below zero degrees have never been recorded, while readings below ten degrees have occurred on only four days during the past fifty years.

The following table gives some information on the normal dates of first and last occurrences of certain critical minimum temperatures in the fall and spring, respectively, at Oracle.

Temperature (°F)	Normal date of first occurrence in fall	Normal date of last occurrence in spring
32	Nov. 11	Apr. 10
28	Dec. 2	Mar. 12
24	Dec. 5	Feb. 20

STATION HISTORY

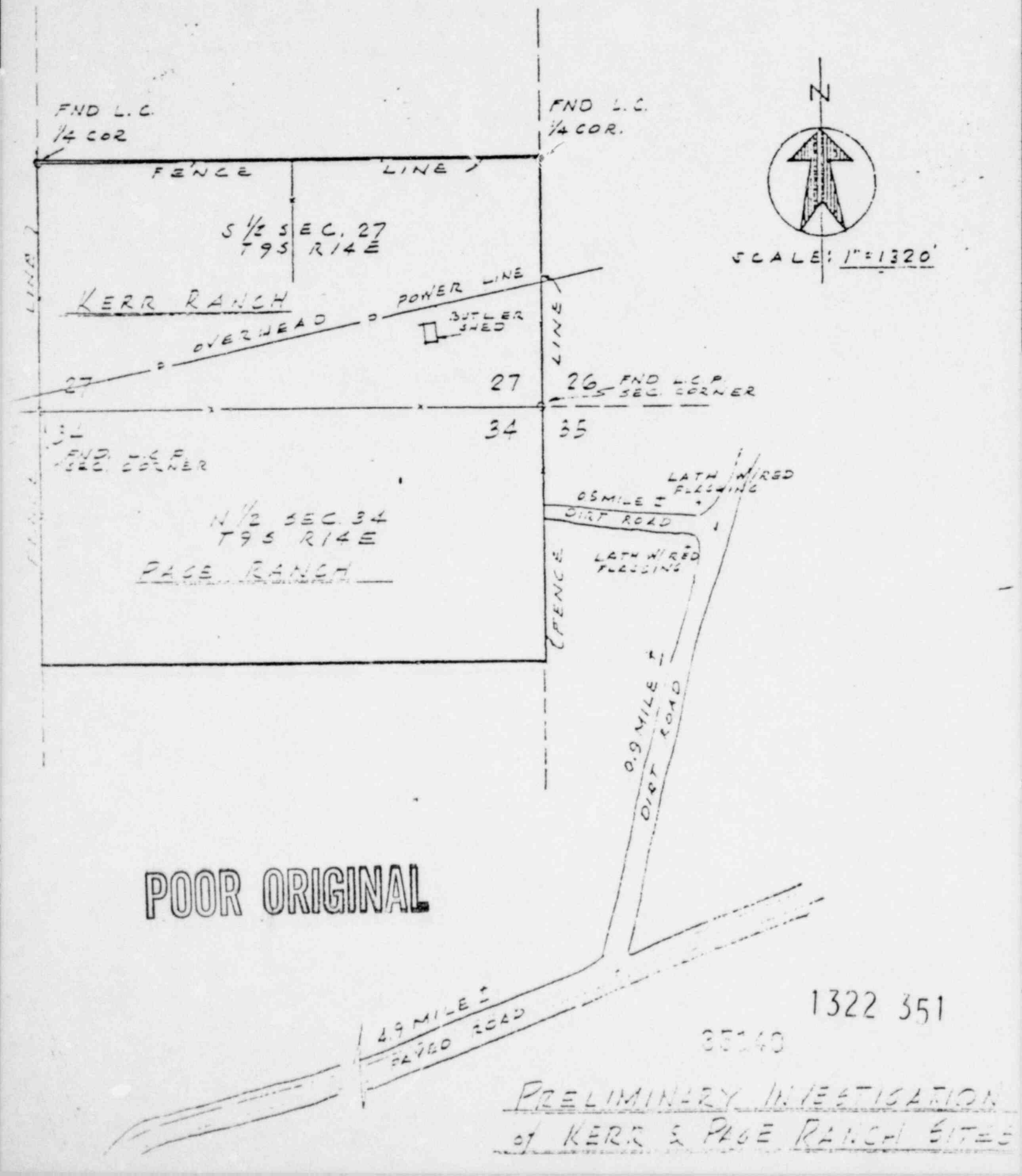
Observer	Dates	Direction and Distance of Station from Post Office	Elevation (feet)	Station known as
Mrs. C. E. Dodge	July 1891 - Nov. 1903	At P. O.	4502	Oracle
W. H. Winters	Dec. 1903 - June 1911			
J. W. Lawson	Aug. 1912 - Sep. 1924			
J. A. Frisbie	Nov. 1924 - Mar. 1928	1.2 mi. SW	4322	Oracle R. S.
Walter Wilson Smith	Mar. 1929 - Oct. 1936	175 ft. S	4520	Oracle
Miss Bertha Heermans	Nov. 1936 - Dec. 1942	0.7 mi. SSE	4555	
Mrs. Nina H. Crary	Jan. 1943 - Nov. 1948	0.6 mi. SW	4600	Oracle (near)
C. H. Crary	Mar. 1949 - June 1949			
Lloyd K. Basteen	Mar. 1950 - Dec. 1957	4.8 mi. SE	4370	Oracle 4 SE
Mrs. Goldie Rice	Jan. 1958 -	4.4 mi. SE	4450	"

The weather records summarized in this publication were made available through the commendable civic spirit and interest of the above listed observers.

Relative humidity readings have not been taken at this location. The values given in the Climatological Summary Table were estimated by a method devised at the Institute of Atmospheric Physics.

This climatological summary has been made possible by a cooperative agreement between the University of Arizona and the United States Weather Bureau. Under the terms of the agreement the Institute of Atmospheric Physics of the University of Arizona has put on IBM punched cards all available daily weather data for the [illegible] in Arizona. In turn, the Weather Bureau has [illegible] since 1941. From these daily cards the [illegible] for each [illegible] period and each month of record. All of these decks of IBM punched cards are available for research work on request.

Copies of this climatological summary can be obtained from the Institute of Atmospheric Physics, University of Arizona, Tucson 25, Arizona.



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PRELIMINARY INVESTIGATION of KERR & PAGE RANCH SITES