National Register of Historic Places Registration Form

	RECEIVED 2280	ONB No. 1024-0018
	APR 2 2 1996	
NAT	REGISTER OF HISTORIC PLA NATIONAL PARK SERVICE	ICES

Number of contributing resources previously

listed in the National Register ____

0

This form is for use in nominating or requesting determinations of eligibility for individual properties or districts. See instructions in *Guidelines* for *Completing National Register Forms* (National Register Bulletin 16). Complete each item by marking "x" in the appropriate box or by entering the requested information. If an item does not apply to the property being documented, enter "N/A" for "not applicable." For functions, styles, materials, and areas of significance, enter only the categories and subcategories listed in the instructions. For additional space use continuation sheets (Form 10-900a). Type all entries.

1. Name of Property				
historic name	Osceola (East) Ditch			
other names/site	number			
2 Location				

<u>Z. LU</u>	cation							
street	& number	Great Basin	National	Park				not for publication
city, to	wn	Baker					Ľx	vicinity
state	Nevada	code	NV	county	White Pine	code	033	zip code 89311

3. Classification			
Ownership of Property	Category of Property	Number of Res	ources within Property
private	building(s)	Contributing	Noncontributing
public-local	district		buildings
public-State	site		sites
X public-Federal	🔯 structure	4	structures
	object		objects
		4	Total

Name of related multiple property listing: N/A

4. State/Federal Agency Certification

A nomination request for determination National Register of Historic Places and m In my opinion, the property meets d	onal Historic Preservation Act of 1966, as amend n of eligibility meets the documentation standards eets the procedural and professional requirement loes not meet the National Register criteria.	for registering properties in the is set forth in 36 CFR Part 60. ee continuation sheet. 4.22.96
Signature of certifying official	A	Date
National Park Service		
State or Federal agency and bureau		
		ee continuation sheet.
	Nevada SHPO	
Signature of commenting or other official		Date /
Nevada State Historic Preserv	vation Office	
State or Federal agency and bureau		
5. National Park Service Certification		
I, hereby, certify that this property is:	$\bigcap \cap \cap$	
entered in the National Register.	$\left(\right) \left(\right) \left(\right) \right)$	11
See continuation sheet.	bat R. Jun	6/6/96
determined eligible for the National		
Register. See continuation sheet.		
determined not eligible for the		
National Register.		
National Register.		
removed from the National Register.		
other, (explain:)		
	Signature of the Keeper	Date of Action

6. Function or Use			
Historic Functions (enter categories from instructions)	Current Functions (enter categories from instructions)		
Indurstry/Processing/Extraction-Waterworks			
7. Description			
Architectural Classification (enter categories from instructions)	Materials (enter categories from instructions)		
	foundation N/A		
Other: Water Ditch	walis N/A		
Other: Rock Dam	······································		
Other: Tunnel	roof N/A		
Other: Water Flume	other Earth Ditch; Wooden Flume; Rock D.		

Describe present and historic physical appearance.

Constructed in 1889-90 by the Osceola Gravel Mining Company, the Osceola (East) Ditch extended some 18 miles from Lehman Creek on a north-northwesterly course, carrying water for hydraulic mining operations at Osceola. The ditch included wooden flumes and a 600-foot tunnel and incorporated water from Lehman, Mill, Strawberry, Sage, and Weaver creeks. Approximately ten miles of the ditch are in Great Basin National Park. Many parts of the extant ditch in the park are eroded, overgrown with brush and trees, and partially filled with rock rubble, while the wooden flume remains are in a state of severe deterioration. The eastern portal of the tunnel near the north boundary of the park in Strawberry Canyon has collapsed.

As part of the Osceola (East) Ditch construction in 1889-90, a rock dam and headgate were built at Stella Lake in Upper Lehman Canyon to increase the lake's storage capacity and thus the flow of Lehman Creek. There are extant portions of the rock dam, but there are no visible headgate remains. The ditch structures and related improvements at the placer operations in Osceola fell into disuse, disrepair, and decay during the early 1900s and were destroyed entirely by a fire in the 1940s.

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The Osceola (East) Ditch was completed, and water from Lehman Creek passed through to the reservoir near Osceola's Dry Gulch on July 4, 1890. The total length of the ditch, including flumes and tunnel, was 95,133 feet, or 18 miles and 93 feet. Total cost of the ditch's construction was \$108,222.65. The ditch had a carrying capacity of 2,500 miners' inches of water. Together with the 1,000-1,100 miners' inches provided by the 16-mile Osceola (West) Ditch that had been constructed on the west side of the Snake Range in 1884-85, the Osceola (East) Ditch was designed to meet the water requirements of the Osceola Gravel Mining Company for hydraulic operations on its 712 acres of placer ground at Osceola, nearly 500 of which were patented, in the Dry Gulch area just west of the town site.

Since 1877 the Osceola Gravel Mining Company, a Salt Lake City-based firm owned principally by Benjamin Hampton, had been interested in the Osceola placers, endeavoring to extract gold from its claims using hydraulic methods similar to those employed in the California gold fields. In August 1889 the Osceola Gravel Mining Company was reorganized and its controlling stock sold to the Osceola Placer Mining Company, a firm that recently had been incorporated in New Jersey. The directors of the new firm were W. B. Kunhard and I. A. Harrison of New York and Benjamin Hampton of Salt Lake City. James H. Marriott was named general superintendent and had charge of day-to-day operations of the Osceola Gravel Mining Company which retained its organizational identity.

The ditch portion of the Osceola (East) Ditch was 82,891 feet in length. Its dimensions were four feet wide in the bottom, two and a half feet deep in solid ground with sloping sides of a half to one or an angle of 22 1/2 degrees. The uniform grade of the ditch was 14 feet per mile, and it had a carrying capacity of 40,000,000 gallons per 24 hours, The excavated material, consisting of gravel, boulders, loose rock, and solid rock, was placed on the lower side of the ditch. Altogether, 81,198 cubic yards of material were excavated by blasting or gadding at a cost of some \$58,307.86.

There were 14 main sections of wooden flumes. The flumes were located in places where it was impracticable to excavate a ditch such as the sides of "rocky and precipitous mountains". This was especially true in Lehman Canyon where 3,768 feet of flume had to be built. The longest single flume section was 2,808 feet and the shortest 96 feet. The aggregate length of flume was 5,352 feet.

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The dimensions of the wooden flumes were four feet wide and four feet deep with uniform grade of 32 feet per mile. Considerable lengths of the flumes had to be supported on trestlework.

There were six drop flumes or chutes along the length of the Osceola (East) Ditch. The dimensions of these flumes varied according to the vertical fall at their respective locations. The total length of the flumes was 6,258 feet with an aggregate vertical fall of 1,352 feet.

The total length of the main flumes and drop chutes was 11,610 feet, the total cost of which was \$21,494.05. This sum included the cost of four ditch tenders' houses, each 14 X 20 feet and furnished with bunks and tables, 16 waste gates, and timbers for trestles, stringers, and ties. The total amount of lumber used in the flumes was 316,800 feet (board measure). In addition, 28,240 linear feet of hewn timbers were used for stringers, trestle posts, and ties, the sizes varying from eight to 12 inches in diameter. The timber used was yellow pine, most of the lumber being cut at a sawmill near Mount Moriah, although smaller amounts were cut in sawmills in Baker Creek Canyon and the South Fork of the Big Wash.

The route of the Osceola (East) Ditch was shortened at least two miles by the excavation of a tunnel "through a projecting spur of the main mountain range" in Strawberry Canyon (just inside the north boundary of Great Basin National Park). The tunnel was 632.5 feet long, 5 feet wide, 6.5 feet high, and had a grade of 4 feet. The tunnel was bored through "fairly solid granite" except at its approaches where the rock was somewhat decomposed, requiring a few sets of timbers and lagging". W. I. Aiken of Osceola excavated and timbered the tunnel under contract at a cost of \$5,060.

The total cost of the Osceola (East) Ditch was \$108,222.65. This sum was broken down as follows: Purchase of Lehman Creek water rights, with ranch and improvements--\$10,000; engineering expenses--\$6,221.99; ditch excavation--\$58,307.86; flume construction--\$21,494.05; tunnel--\$5,060; and general expenses for teamsters, cooks, construction superintendent, etc. In addition and "properly chargeable to the east-ditch account "was the work of cutting and draining a small lake [Stella Lake] at the head of Lehman's Canyon, putting in culvert and gate, constructing cabin, etc." at a cost of \$949.28.

Associated with the construction of the Osceola (East) Ditch were improvements at the placer mines in Osceola which were outside the present boundaries of Great Basin National Park. The

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distributing reservoir was enlarged some 50 percent in March 1890 by the excavation of nearly 4,000 cubic yards of "cemented gravel" and rock from the interior and placing it upon the bank. The enlargement, together with a new gate tower and waste gate, cost \$2,875. Two large-sized giants or monitors (Hoskin-Marysville-California patent, Size No. 5) having 15-inch inlets and 8-inch nozzle butts, were added to the plant. The giants, with two 18inch water gates and deflectors, cost \$900.

Some 1,100 feet of large bedrock sluice was also constructed at Osceola having dimensions of 60 inches in width and 35 inches in depth. Since all of the gravel in the existing workings passed through the sluice it was "strongly built and supported" and "absolutely tight in the bottom to prevent loss of quicksilver and gold". The bottoms of the sluice were selected lumber one and three-quarters inches thick, planed, tongued, and grooved. The sides of the sluice were doubled, the inner lining consisting of two-inch plank. Riffle blocks were square timbers 12 inches X 12 inches X 12 inches placed in rows across the bottom and divided by a two-inch strip, which left an aperture in which the gold could settle. Total cost of the sluice, which required approximately 80 feet of lumber per lineal foot, was \$3,300.

In connection with construction of the sluice a tunnel was driven some 135 feet through the north end of the bedrock into the deep channel at a cost of \$1,225. The tunnel was 8 feet wide and seven feet high and bored through solid quartzite.

One set of under-currents was constructed at a point 1,000 feet below the head of the sluice. The set was 24 feet X 48 feet, divided into four compartments with a grade of 1 in 12 feet, and cost \$385.

Miscellaneous improvements were added to the hydraulic operations in Osceola. A small pipe line was constructed to furnish the water to a Pelton wheel for power generation. New buildings and an electric lighting plant were constructed. Two arc lights of 2,000 candle-power were erected at the placer, thus enabling increased hydraulic operations to be conducted at night.

Assessment of Integrity

Despite the decay, disrepair, and deterioration of the Osceola (East) Ditch remnants within the boundaries of Great Basin National Park, the components of the water conveyance engineering system have never been altered, reconstructed, of restored. Thus, the

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integrity of the system has been affected primarily by neglect, disuse, and weather. While there are reports that some of the wooden flume components have been vandalized and used for local construction, the historic integrity of the ditch has been left largely unimpaired.

8. Statement of Significance	
Certifying official has considered the significance of this property antionally significance of this property significance of the second secon	y in relation to other properties: tatewide X locally
Applicable National Register Criteria	D
Criteria Considerations (Exceptions)	D E F G
Areas of Significance (enter categories from instructions)	Period of SignificanceSignificant Dates1890-19011890-1901
	Cultural Affiliation N/A
Significant Person N/A	Architect/Builder Unknown

State significance of property, and justify criteria, criteria considerations, and areas and periods of significance noted above. The Osceola (East) Ditch is significant on the local level as the most extensive engineering system of its kind in eastern Nevada, providing and elaborate conveyance of water required for the development of the hydraulic mining operations at Osceola. Osceola was the most important and productive mining district in eastern Nevada and the only predominately gold placer district in White Pine County. During its construction and immediately after its completion in 1889-90, the ditch received attention and publicity in nationally-circulating mining periodicals such as the Engineering and Mining Journal and the Mining and Scientific Press. The ditch was only utilized for its intended purpose for some eleven years (1890-1901) and never did provide the necessary quantity of water required to permit the Osceola Gravel Mining Company's hydraulic operations to reach their widely-anticipated development and production potential. The engineering work, however, is an outstanding example of a mining-related water conveyance system designed to facilitate exploitation of rich placer gold deposits in late nineteenth century eastern Nevada. Despite the present state of deterioration and decay of the ditch and related works, it is the only extant example of such an engineering system in eastern Nevada with the exception of scattered traces of its companion Osceola (West) Ditch.

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Historical Context

The significance of the Osceola (East) Ditch to the placer operations at Osceola was noted almost immediately. The first full year of placer operations at Osceola using the waters of both the East and West ditches was 1891. That year hydraulic activity was begun on May 8, using a 2,000-inch volume of water about seven hours daily. After May 20 operations commenced "full blast almost throughout the 24 hours," using a 2,000inch volume. Later on July 11, 1891, the Engineering and Mining Journal reported:

...Gravel is being boomed off at a much greater rate than ever before, and prospects are highly encouraging both for water and gold. The ditches hold well; no accident to either has occurred, and cost of maintaining the east ditch is very much less than anticipated. Bed rock cleaning was stopped when the full supply of water began as it takes the present small force of men to attend to both monitors, which are working most satisfactorily. Whenever the bedrock is exposed, however, nuggets are picked up. On June 17 the mine was running 24 hours with 2,500 inches (40,000,000 gallons) water, and the amount was increasing.

Despite the initial glowing reports of the Osceola placer operations, however, gold production did not meet the expectations of the East Ditch promoters. The gross yield of the Osceola Gravel Mining Company for the years 1890 and 1891 was only \$16,190.67 and \$20,223, respectively.

Beginning in 1892 the Osceola gold placer operations were hampered by periodic water shortages, largely the result of a mild dry winter and leaking ditch wooden flumes. In September, for instance, the <u>Engineering and Mining Journal</u> reported that the gold placers were "yielding well at present," but because "of the lack of water, operations are being carried on under difficulties." But "for this drawback the placers, it is claimed, would make a rich return." For a time in early 1894 the Osceola Gravel Mining Company closed down its operations. In July 1895 it was reported that Osceola placer mines had resumed operations, the "two canals which supply the hydraulics are in use and 100 men are employed." In August 1896, however, the <u>White Pine News</u>, a county newspaper, observed that water "for mining purposes is said to be getting so scarce in Osceola that placers will have to shut down." One month later the <u>Engineering</u> and <u>Mining Journal</u> noted that the placers had "recently cleared up \$12,030 from 24 days' work." There was "much rich gravel, but no water in that vicinity."

Intermittent placer operations continued at Osceola through the 1901 season. The previous seven years had been mild dry winters, and the water supply in the ditches, depending primarily on melting snow and springs, became inadequate to meet the needs of the placers. Water theft, leaky wooden flumes, and legal battles over water rights contributed to the curtailment of placer operations. By the turn of the century it was reported that the East and West ditches combined could only provide about 100 miners' inches of water. Because of the continuing water problems the Osceola placers produced only some \$10,000 worh of gold in 1901.

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In 1906, after the Osceola placer operations had been shut down for five years, H. S. Woolley, a mining promoter from New York City, secured the holdings of the nearly defunct Osceola Placer Mining Company, the parent firm of the Osceola Gravel Mining Company, and secured an option for water rights on Baker Creek. Upon returning to New York City, he succeeded in organizing the Nevada Amalgamated Mines and Power Company with assets of \$1,000,000. The new company planned to reconstruct the West and East ditches, construct a large power plant on Baker Creek to furnish electricity for operation of the hoists and reduction works, establish three towns, build a railroad spur from Ely to Osceola, and amass a large labor force to accomplish the work. After several years, however, the venture proved to be unsuccessful and the project never materialized.

There is no documentary evidence that the Osceola (East) Ditch was used for placer mining activities after 1901. The ditch and its components fell into disuse and decay. During the 1940s a disastrous fire swept through Osceola, destroying the remnants of the ditch engineering system in that locale.

9. Major Bibliographical References

- White Pine News, October 24, 31, 1885; August 17, September 14, 21, October 12, 1. November 23, 1889; February 8, April 5, 1890; May 5, 1904; and August 15, 1896.
- Ely Mining Record, June 8, 1907. 2.
- "Osceola District, E. & M.J., 1901," File No. 335, Osceola Mining District, Nevada 3. Mining District Collection, Nevada Bureau of Mines and Geology, University of Nevada, Reno.
- Effie O. Read, White Pine Lang Syne: A True History of White Pine County, Nevada. 4. Denver, Big Mountain Press, 1965.

	and a start start start
Previous documentation on file (NPS): preliminary determination of individual listing (36 CFR 67) has been requested previously listed in the National Register previously determined eligible by the National Register designated a National Historic Landmark recorded by Historic American Buildings Survey # recorded by Historic American Engineering Record #	X See continuation sheet Primary location of additional data: State historic preservation office Other State agency X Federal agency Local government University Other Specify repository: Great Basin National Park
10. Geographical Data	
Acreage of property Approx. 1 - 2 acres aggregate	e square measure
UTM References A L L L L L L L L L L L L L L L L L L L	B L L L L L L L L L L L L L L L L L L L
Verbal Boundary Description	
Boundary lines follow the line highlighted in Generally, the boundary lines extend about 10 of the ditch.	
	See continuation sheet
Boundary Justification	
The boundary includes the Osceola (East) Dito within Great Basin National Park. The Stella of the ditch system.	
	See continuation sheet
11. Form Prepared By	
name/title Harlan D. Unrau, Historian	
organization <u>National Park Service - DSC - TWE</u>	date
street & number <u>12795 W. Alameda Parkway</u> city or town <u>Lakewood</u>	telephone(303) 969-2254 stateColoradozip code80225

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5. <u>Biennial Report of the State Engineer, 1909-1910</u>, P.37 in Appendix to Journals of Senate and Assembly, State of Nevada, 1911, 25th Session, Vol. 2.

6. Weeks, F.B. "Geology and Mineral Resources of the Osceola Mining District, White Pine County, Nev," in U.S. Geological Survey, Bulletin 340, Contributions to Economic Geology, 1907, Part I-Metals and Nonmetals, Except Fuels. Washington, Government Printing Office, 1908.

7. "General Mining News-Nevada-White Pine." <u>Engineering and Mining</u> Journal, XLIV (December 3, 1887), 420.

8. "Official Reports-Osceola Gravel Mining Company." <u>Engineering</u> and <u>Mining Journal</u>, LI (May 30, 1891), 630-31.

9. "Mining in 1889." <u>Mining and Scientific Press</u>, LX (February 1, 1890), 81.

10. Report of the Surveyor-General and State Land Register of the State of Nevada for the Years 1889 and 1890, pp. 35-36, in Appendix to Journals of Senate and Assembly, State of Nevada, 1891, 15th Session.

11. "General Mining News-Nevada-White Pine County." Engineering and Mining Journal, LII (July 11, 1891), 55.

12. "General Mining News-Nevada-White Pine County." Engineering and Mining Journal, LII (August 1, 1891), 133.

13. "General Mining News-Nevada-White Pine County." Engineering and Mining Journal, LII (January 16, 1892), 117.

14. "General Mining News-Nevada-White Pine County." Engineering and Mining Journal, LIV (September 24, 1892), 304.

15. "General Mining News-Nevada-White Pine County." Engineering and Mining Journal, LVII (February 17, 1894), 160.

16. "General Mining News-Nevada-White Pine County." <u>Engineering and</u> <u>Mining Journal</u>, LX (July 13, 1895), 39.

17. "General Mining News-Nevada-White Pine County." <u>Engineering and</u> <u>Mining Journal</u>, LXII (September 19, 1896), 278.

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UTM References

Osceola (East) Ditch - Zone 11

	Easting	Northing
Α.	732160	4327050
в.	732620	4325800
с.	736400	4325800
D.	736400	4324240
E.	736880	4323900
F.	736920	4323410
G.	738350	4322400
н.	736560	4321560

Stella Lake Rock dam - Zone 11

732280	Easting
4320650	Northing

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Photograph No. 1

Photographer - Harlan D. Unrau Date - September 1988 Original Negative - Denver Service Center, Western Team View - Ditch near automobile turnout on Wheeler Peak Scenic Road; looking north-northeast

Photograph No. 2

Photographer - Harlan D. Unrau Date - September 1988 Original Negative - Denver Service Center, Western Team View - Ditch near automobile turnout on Wheeler Peak Scenic Road; looking south-southwest

Photograph No. 3

Photographer - Harlan D. Unrau Date - September 1988 Original Negative - Denver Service Center, Western Team View - Ditch near automobile turnout on Wheeler Peak Scenic Road; looking north-northeast

Photograph No. 4

Photographer - Harlan D. Unrau Date - September 1988 Original Negative - Denver Service Center, Western Team View - West end (Spring Valley Side) of ditch tunnel

Photograph No. 5

Photographer - Harlan D. Unrau Date - September 1988 Original Negative - Denver Service Center, Western Team View - West end (Spring Valley Side) of ditch tunnel

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Photograph No. 6

Photographer - Harlan D. Unrau Date - September 1988 Original Negative - Denver Service Center, Western Team View - Ditch in Strawberry Creek Canyon; looking westnorthwest

Photograph No. 7

Photographer - Harlan D. Unrau Date - September 1988 Original Negative - Denver Service Center, Western Team View - Stella Lake Rock Dam; looking south

Photograph No. 8

Photographer - Harlan D. Unrau Date - September 1988 Original Negative - Denver Service Center, Western Team View - Stella Lake Rock Dam; looking south

Photograph No. 9

Photographer - Harlan D. Unrau Date - September 1988 Original Negative - Denver Service Center, Western Team View - Stella Lake Rock Dam; looking south

EAST DITCH CONSTRUCTION DRAWINGS





OSCEOLA GRAVEL MINING COMPANY.

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SUPPLEMENTARY LISTING RECORD

NRIS Reference Number: 96000584

Date Listed: 6/6/96

OSCEOLA (EAST) DITCH Property Name White PineNVCountyState

N/A

Multiple Name

This property is listed in the National Register of Historic Places in accordance with the attached nomination documentation subject to the following exceptions, exclusions, or amendments, notwithstanding the National Park Service certification included in the nomination documentation.

Signature the Keeper

anended Items in Nomination:

Verbal Boundary Description:

The verbal boundary description (VBD) is revised to read: Boundary lines follow the line highlighted in yellow on the enclosed USGS quad maps, starting at Point A on the northern park boundary and ending at Point H on Lehman Creek. Generally, the boundary lines extend about 10 feet on either side of the center line of the ditch. The boundary for the discontiguous dam includes the full extent of the stonework dam and an area ten (10) feet on all sides to include appropriate landscape features and setting, similar to the main ditch.

Acreage:

The correct acreage for the resource is approx. 24 acres.

This information was confirmed with Robbyn Jackson of the NPS.

DISTRIBUTION:

National Register property file Nominating Authority (without nomination attachment)