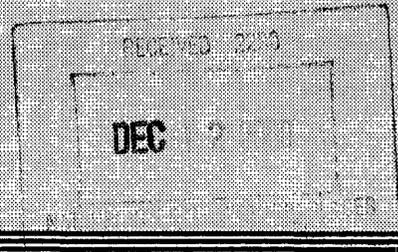


United States Department of the Interior
National Park Service

1672



**NATIONAL REGISTER OF HISTORIC PLACES
REGISTRATION FORM**

1. Name of Property

historic name C & H Refinery District

other names/site number N/A

2. Location

street & number 402 W. 8th Street

city or town Lusk

state Wyoming code WY

county Niobrara

not for publication

vicinity

code 027

zip code 82225

3. State/Federal Agency Certification

As the designated authority under the National Historic Preservation Act of 1986, as amended, I hereby certify that this X nomination request for determination of eligibility meets the documentation standards for registering properties in the National Register of Historic Places and meets the procedural and professional requirements set forth in 36 CFR Part 60. In my opinion, the property X meets does not meet the National Register Criteria. I recommend that this property be considered significant nationally statewide X locally. (See continuation sheet for additional comments.)

Wendy E. Bredehoff

11/28/01

Signature of certifying official

Date

Wyoming State Historic Preservation Officer

State or Federal agency and bureau

In my opinion, the property X meets does not meet the National Register criteria. (See continuation sheet for additional comments.)

Signature of commenting or other official

Date

State or Federal agency and bureau

4. National Park Service Certification

I, hereby certify that this property is:

- entered in the National Register
 ___ See continuation sheet.
- ___ determined eligible for the
 National Register
 ___ See continuation sheet.
- ___ determined not eligible for the
 National Register
- ___ removed from the National Register
- ___ other (explain): _____

Beal
 Keeper's Signature Date of Action

Edson H. Beal 1.16.01

5. Classification

Ownership of Property (Check as many boxes as apply)

- private
- ___ public-local
- ___ public-State
- ___ public-Federal

Category of Property (Check only one box)

- ___ building(s)
- district
- ___ site
- ___ structure
- ___ object

Number of Resources within Property

Contributing	Noncontributing	
<u>2</u>	<u>3</u>	buildings
		sites
<u>25</u>	<u>8</u>	structures
		objects
<u>27</u>	<u>11</u>	Total

Number of contributing resources previously listed in the National Register 0

Name of related multiple property listing (Enter "N/A" if property is not part of a multiple property listing.) N/A

6. Function or Use

Historic Functions (Enter categories from instructions)

INDUSTRY/PROCESSING/EXTRACTION: manufacturing facility (refinery)
COMMERCE/TRADE: business
DOMESTIC: single dwelling
TRANSPORTATION: road-related (gas station)

Current Functions (Enter categories from instructions)

COMMERCE/TRADE: business

7. Description

Architectural Classification (Enter categories from instructions)

Commercial Style
Bungalow, Craftsman

Materials (Enter categories from instructions)

foundation Concrete, Earth
roof Wood (shingle), Metal (tin)
walls Wood, Metal (tin), Concrete
other _____

Narrative Description (Describe the historic and current condition of the property on one or more continuation sheets.)

8. Statement of Significance

Applicable National Register Criteria (Mark "x" in one or more boxes for the criteria qualifying the property for National Register listing)

- A Property is associated with events that have made a significant contribution to the broad patterns of our history.
- B Property is associated with the lives of persons significant in our past.
- C Property embodies the distinctive characteristics of a type, period, or method of construction or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components lack individual distinction.
- D Property has yielded, or is likely to yield information important in prehistory or history.

Criteria Considerations (Mark "X" in all the boxes that apply.)

- a owned by a religious institution or used for religious purposes.
 b removed from its original location.
 c a birthplace or a grave.
 d a cemetery.
 e a reconstructed building, object or structure.
 f a commemorative property.
 g less than 50 years of age or achieved significance within the past 50 years.

Areas of Significance (Enter categories from instructions)

Commerce
Engineering
Industry
Social History
Transportation

Period of Significance 1933-? Significant Dates 1933

Significant Person
(Complete if Criterion B is marked) N/A

Cultural Affiliation N/A

Architect/Builder N/A

Narrative Statement of Significance (Explain the significance of the property on one or more continuation sheets.)

9. Major Bibliographical References

(Cite the books, articles, and other sources used in preparing this form on one or more continuation sheets.)

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 # _____

Primary Location of Additional Data

- State Historic Preservation Office
 Other State agency
 Federal agency
 Local government
 University
 Other

Name of repository: _____

10. Geographical DataAcreage of Property 1.25 acres

UTM References (Place additional UTM references on a continuation sheet)

Zone	Easting	Northing
<u>13</u>	<u>544425</u>	<u>4733375</u>

Verbal Boundary Description (Describe the boundaries of the property on a continuation sheet.)

Boundary Justification (Explain why the boundaries were selected on a continuation sheet.)

11. Form Prepared By

name/title Zahir A. Khalid
 organization N/A
 street & number House 481, Street 10
 city or town Islamabad Country Pakistan

date 17 November 2000
 telephone 011-9251-291139
 zip code N/A

name/title Shahid H. Shigri
 organization N/A
 street & number House #154A Hali Road Westridge 1
 city or town Rawalpindi Country Pakistan

date 17 November 2000
 telephone 011-9251-474903
 zip code N/A

name/title Robert Breuer
 organization Department of Environmental Quality
 street & number 3030 Energy Lane, Suite 200
 city or town Casper State WY

date 17 November 2000
 telephone (307) 473-3450
 zip code 82604

name/title Mike Cassity
 organization Consulting Historian
 street & number P. O. Box 3495
 city or town Laramie State WY

date 17 November 2000
 telephone (307) 766-3686
 zip code 82071

Additional Documentation

Submit the following items with the completed form:

Continuation Sheets**Maps**

A **USGS map** (7.5 or 15 minute series) indicating the property's location.
 A **Sketch map** for historic districts and properties having large acreage or numerous resources.

Photographs

Representative **black and white photographs** of the property.

C & H Refinery District

Niobrara County, Wyoming

Additional items

(Check with the SHPO or FPO for any additional items)

Property Owner

(Complete this item at the request of the SHPO or FPO.)

name Zahir A. Khalid

street & number House 481, Street 10

telephone 011-9251-291139

city or town F 10/2 Islamabad

Country Pakistan

zip code N/A

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National Park Service

National Register of Historic Places
Continuation Sheet

Section number 7 Page 1

C & H Refinery
Niobrara County, WY

Description

The C & H Refinery is situated at the southwestern edge of Lusk, Wyoming, adjacent to U. S. Highway 18/20. Located in east central Wyoming, Lusk occupies rolling upland terrain characteristic of the southeastern Powder River Basin. The town is on the northern margin of the Hartville uplift, which not only separates the Denver and Powder River Basins, but also links the Laramie Range to the Black Hills. The Hat Creek Breaks, a prominent east-west trending interfluvial divide separating the Niobrara and Cheyenne River drainages, is located about six miles north of Lusk. The refinery is situated on a broad, very gently sloping southeast flank of a locally prominent ridge south of and adjacent to the Niobrara River. The ridge marks the western municipal boundary of Lusk.

The C & H Refinery historic district complex is an intact industrial complex retaining an uncommonly high level of integrity, which can be easily seen by comparing historic photographs (Photo 1, from a ca. 1950 advertisement) with the present condition of the refinery. The district exemplifies the dramatic changes which occurred during the first half of the 20th century as a direct result of oil exploration and development in Wyoming. The refinery complex is spread out over an area of about 1.5 acres and is enclosed by a barb wire fence. It is most probably the only operational petroleum distillation refinery in existence. This early refining technology has been entirely replaced by today's sophisticated thermal cracking process.

The refinery complex today includes the original house/office (Photo 2), refinery building (Photo 3) and equipment, related storage tanks and operational structures (Photos 4-7) in their original refinery operation locations, an added gas station/shop with gas pumps, and a contemporary welding shop. The majority of the existing buildings, structures, and objects are contributing elements of the historic district, and represent the entire spectrum of petroleum distillation facilities and equipment in common use during the first half of the 20th century. In July 1999, the Guinness Book of World Records, Ltd. listed the C & H Refinery as the smallest functioning oil refinery in the world.

BUILDING DESCRIPTIONS

House/Office - circa 1915 (contributing)

This is building #1 (Photo 2) on the attached site plan. It is a one story, rectangular frame bungalow with gable roof. Moved to Lusk from nearby Manville, the house was placed on a concrete foundation which features a partially finished basement. The windows are evenly spaced rectangular 4/4 and square 1/1 double hung with plain surrounds. There is one grouped bay of 3 windows on the west side.

The front of the building features a stucco Spanish colonial facade with stepped parapet and central arch addition, which apparently replaced a similar addition made to the building when the house was moved to

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Continuation Sheet**

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**C & H Refinery
Niobrara County, WY**

Description (continued)

Lusk for use as the refinery office. There is a single central doorway flanked by large picture windows and smaller rectangular windows at each end of the facade. Bays on the facade are evenly spaced and have plain surrounds. The room in the front of the building was used for the office. Originally the front office addition was a smaller room with a similar stylized Spanish colonial facade, enlarged in the 1940s into the existing front office addition on the house.

The refinery house/office building features four rooms, three on the ground floor and one in the basement. It appears the basement room was refinished with a touch of class. The room apparently served as the managers private office and was panelled with very precious antique oak wood, which was thought to be 100 years old in 1933 when the building was moved to serve as the refinery manager's home.

Refinery Operations Building - 1932 (Contributing)

This is building #18 (Photo 3) on the attached site plan. It is a one story, corrugated metal building with no foundation and a dirt floor. It contains a boiler and two stills. The stills (Photos 4 and 5) are the centerpiece of the refinery operation. They are an important and individually contributing part of the heritage values that confer historical significance to the C & H Refinery. The elegant calligraphic markings cast into the doors of the stills confirm they were built by Erie City Iron Works of Erie, Pennsylvania. According to Drake Well Museum curator Susan J. Beales (personal communication), they may be the only remaining specimens of petroleum refinery stills built by Erie City Iron Works. The available evidence suggests that the stills were scavenged from the defunct Downer Oil Works of Corry, Pennsylvania and subsequently transported to the first oil refinery in Wyoming, which was built near Casper in 1895. Thirty five years later, the stills were once again salvaged and hauled to Lusk for use at the C & H Refinery. The stills remain operational and evoke a sense of grace and craftsmanship.

Interior and exterior building fabric consists of corrugated metal panels riveted together and supported by wooden beams. Angle iron supports serve to hold up the low gable roof made of the same materials. The refinery building has a north-south orientation and stands approximately 20' to 25' tall, 28' wide and 54' long. The walls are doubled corrugated metal panels with a 4"-5" mud filled space between interior and exterior panels. This innovation provided for perfect low cost insulation against the severe winter conditions of Lusk, Wyoming.

This tiny structure houses the entire refinery, excluding the associated cooling towers, heat exchangers, and storage tanks. Almost all the refining equipment inside the building is in it's original, fully operational state.

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Continuation Sheet

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C & H Refinery
Niobrara County, WY

Description (continued)

Gas Station Shop, Gas Pumps, & Office Building - circa 1970's (Non-contributing)

The gas station and associated office building are labeled #2 in the accompanying site plan. This is a modern concrete block rectangular "gas station" building which served as the C & H gas station until the pumps were locked some years ago. It has a flat roof and no decorative elements. There are 2 single entrance doors on the north side which allow entry to either the gas station office or the Nutrena Feeds store at the east end of the building. It has a concrete foundation. The Gas Station office has large glass side by side windows on the north and east, and a flat metal awning. This building was apparently constructed when State Highway 20 was upgraded and widened. The gas pumps (labeled #38 on the attached site plan) are contemporary. The original gas station pumps were removed and the new pumps installed at the time of the highway expansion project.

Shop Building - circa 1970s (Non-contributing)

Labeled as #37 on the accompanying site plan, this is a rectangular prefab metal shop building with concrete foundation and low metal gable roof. It has a large central garage door opening at one end and a single walk through door at the other end. There are no windows and no decorative elements.

STORAGE TANK AND ASSOCIATED FACILITIES

Old crude oil storage tanks were initially brought in for the refinery operation and some stills and tanks were added prior to 1950 in anticipation of expanding the operation. However, most of the tanks and stills were secondhand equipment, obtained at minimal or no cost from other locations. The tanks and some stills were used only as storage tanks and remain intact in their operational locations. Together they form an interesting and historically unique collection of early 19th century crude oil processing and storage facilities.

The numerous rivets or button-like nodules holding many of the C & H Refinery storage tanks together indicates they were built and in service before the advancement of welding techniques which replaced these rivets. Bolted tanks represent a transitional fastening technology that generally antedates welding. Welded tanks were a significant development since it replaced the steel "buttons" or rivets with a continuous seam or "bead" of molten steel which cooled and hardened to become as strong as the steel plates it fastened together. This welding technique greatly modernized the storage of petroleum fluids by eliminating the gaps between the rivets which would often start to leak - sooner rather than later. The strength of this welded "bead" and the characteristic of filling the entire seam where one steel plate joins another was a significant step in assuring a liquid-tight tank. Riveted, bolted, and welded tanks - representing the entire spectrum of

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National Register of Historic Places
Continuation Sheet

Section number 7 Page 4

C & H Refinery
Niobrara County, WY

Description (continued)

tank construction technology available during the late 19th and early 20th centuries - are present at the C & H Refinery.

Handmade Riveted Tanks - pre-1930s (Contributing)

Tanks #3, 4, 5, 6, 25, 26, 27, 28, 29, 30, 31 (Tanks #25-31 are shown in Photo 6) on the attached site plan were placed at this location as part of the 1933 refinery operation and remain on-site today. These tanks are made of steel, rest on wooden stilts, and are connected via a gravity feed pipe system for operational use as storage for finished diesel and Kerosene fuels. Many of the riveted seams were welded at a later date.

Bolted Storage Tanks - post-1940s (Contributing)

Tanks labeled #7, 8, 9, 34, and 35 on the attached site plan are manufactured in a different way than hand-riveted tanks found elsewhere on the property. The numerous individual plates that form the tanks were fastened together with standard machine-thread bolts. This fastening technology occurred more recently than hand-riveting and was supplanted in the 1950s by welding. Tanks #7, 8, and 9 are not only bolted, but the seams were coated with pitch. These tanks contained intermediate petroleum distillation fractions such as diesel fuel and heating oil.

Tanks #34 and 35 held #1 and #2 crude oil. These large tanks feature machined lever hatches, rectangular steel sheet roofing, and pie-shaped roof joints. According to documents found at the refinery, both tanks were built in 1926 for the Ohio Oil Company and moved to the present location by James Hoblit in 1949. They were originally located north of C & H Refinery on a small hillock just east of the refinery complex. These tanks received crude oil from Ohio oil company at Lance Creek, via a six inch spur pipeline to Fort Laramie approximately 60 miles to the south. According to a painted manufacturer's label on Tank 35, it was built in Parkersburg, West Virginia, but the manufacturer's name is obscured by paint and rust.

Welded Tank - post-1940s (Contributing)

Tank #22 is a large, bolted tank containing internal steam coils. It probably held petroleum distillates heavier than gasoline or diesel fuel. The standard, machine thread bolts used to fasten the metal plates together indicate that the tank dates to ca. 1940. It was probably brought onto the refinery site somewhat after the refinery went into operation. The internal steam coils were used to heat the heavier distillate so that it would flow more readily.

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Continuation Sheet

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C & H Refinery
Niobrara County, WY

Description (continued)

Welded Tanks - pre-1930s (Contributing)

Tanks #23 & 24 on the attached site plan. This pair of tanks was originally riveted, then welded at a later time. They held atmospheric bottoms - residual petroleum refinery products that didn't boil off during the distillation process. The tanks were periodically drained into a small, nearby waste pit, suggesting that the collected residue was not routinely commercially valuable to the C & H Refinery operators. The fact that the atmospheric bottoms were discarded is reflective of a small oil processing operation that lacked the technical resources or working capital to further process the residuum into a useful product.

Stills Used as Storage Tanks - pre-1920s (Contributing)

Numbered 21, 32, and 33 on the attached site plan, it is probable these distillation stills were brought in from Midwest Oil Company refinery in Casper, Wyoming in anticipation of expanding the refinery operation. However, they were placed at this location as part of the original refinery operation and were only used as crude oil storage tanks. No documentation of plans for another use at this location have been found.

The stills were originally constructed of hand-riveted 3/4 inch steel plates. Flathead rivets were used and both stills were apparently covered with an insulating jacket at some time in the past. Some of the seams were subsequently reinforced with welding and double rivets. Primitive lap joints in combination with the presence of flathead rivets suggests that the stills were constructed before the 1920s, prior to the operation of the C & H Refinery. This date is consistent with the corporate history of the Midwest Oil Company, which was established in 1910 and operated as such until it merged with the Franco-Petroleum Company in 1914, which was subsequently absorbed by Standard Oil of Indiana.

Heat Exchangers - pre-1930s (Contributing)

Labelled #19 and 20 on the map, these tower-like structures were designed to reduce the temperature of the distillation vapor products. The products were subsequently transported via pipes to the cooling tower (structure #14 on the site map). Based on the construction attributes of the heat exchangers, they were probably fabricated sometime prior to the 1930s. After this period, "shell and tube" heat exchangers became more common.

Cooling Tower - circa 1930s (Contributing)

An essential part of the refinery, the gravity feed cooling tower (labeled #14) was used to cool intermediate fractions and other distillation products for eventual storage, blending, and sales. This structure would have been one of the first built by Chamberlain and Hoblitt. The construction methods used, and the expedient

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Continuation Sheet

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**C & H Refinery
Niobrara County, WY**

Description (continued)

and sometimes provisional quality of some of its features, strongly suggest that the structure was entirely "homemade." The cooling tower was connected to the heat exchangers (#19 and 20), and to the four production tanks (#10-13). The cooling tower operated by means of complex array of pipes that produced a cold water bath that fully transformed the cooling vapor distillate from the heat exchange towers into liquid petroleum products subsequently piped to the adjacent production tanks. While cooling towers are a common feature of any oil refinery, the design and construction elements of the tower built at the C & H Refinery are quite unique and are attributable to its "homemade" qualities. The cooling tower and associated production tanks #10-13 are shown in Photo 7.

Welded/Refurbished tanks - circa 1950s (Non-contributing)

Tanks #10, 11, 12, & 13 (Photo 7) are welded seam production tanks. Seam welding represents a more recent petroleum storage tank construction technique. Production tanks were designed to hold finished petroleum products rather than crude oil or "raw material" storage tanks, which were usually simply called "crude tanks." With the exception of tank #12, they were built by Eaton Metal Products of Denver, Colorado, a company known today as the Eaton Corporation. Tank #11 has the date of construction - "1954 April" - stamped on it. Tank #12 is marked with "UTLX," which means it was originally built by the Union Tank Car Company for use by the railroad. Tanks #11, 12, and 13 may be recycled riveted tanks. The four tanks have been placed on wooden stilts to elevate them so that they work better with the gravity feed system used to pipe the finished distillates into tanker trucks for local distribution. All have lost integrity because they were reconditioned in the 1950s.

Welded Fuel Storage Tanks - circa 1950s-1960s (Non-contributing)

Tanks #15, 16, and 17 are welded tanks used to store finished fuels. According to refinery records, tank #15 held kerosene, and tanks #16 and 17 held gasoline. These tanks were connected to a Tesoro fuel pump located on the west side of the cooling tower (structure #14).

Fractionating Tower - circa 1950s (Non-contributing)

Labeled #36 on the site sketch map, the fractionating tower was never erected or used. In normal operation, fractionating towers were used to separate heated petroleum vapors into constituent fuel products. Similar in function to stills, the fractionating tower allowed operators to separate and recover substantially more petroleum fractions than was possible using the relatively primitive technology employed at the C & H Refinery. From a historical perspective with reference to the District, fractionating towers represent a level of refinery technology that the C & H Refinery never quite achieved.

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National Register of Historic Places
Continuation Sheet

Section number 8 Page 7

C & H Refinery
Niobrara County, WY

Statement of Significance

The C & H oil refinery is an intact independent oil refining complex which directly represents the impact of oil and oil development on the small Wyoming community of Lusk. **It is eligible for the National Register of Historic Places under Criterion 'A', for its association with and representation of oil development and refining, and the impact of the oil industry on small communities in the western United States.** While the industrial revolution spawned a variety of technologies, generated innovations in patterns of living and of making a living, and fostered the expansion of markets and networks of communication and transportation, one powerful component of the industrial revolution was the accession to dominance of petroleum as fuel. The use of petroleum as fuel - as opposed to only as lubricants or even medicines - in turn provided a basis for more changes in technology and transportation. The history of the petroleum industry, moreover, reflects fundamental contours of broader changes in the American economy and social order. The C & H oil refinery at Lusk, Wyoming, reveals critical elements of the history of the oil industry in both its technology and as an exception to the dominant form of corporate organization.

Ever since the first successful oil well provided a continuing stream of the crude product in 1859 at Titusville, Pennsylvania, all oil, wherever produced, however utilized, has had to go through three stages before reaching its final destination. It would have to be produced, usually from wells drilled into the earth, and then it would have to be refined into multiple usable products, and finally it would have to be distributed to the consumer.

Just as the initial discovery of oil well drilling techniques set off a boom with entrepreneurs frantically sinking their drills at every opportunity that seemed to bear hope of producing oil, so too did it set off a wave of new businesses designed to refine the crude oil generated by the independent oil producers. These refineries tended to be small, often primitive operations, and soon there were literally hundreds of them, perhaps more than a thousand, operating where the oil business was concentrated in its early years—the Pennsylvania, Ohio, and West Virginia region. Urban areas in the region soon became identified as refining centers. Cleveland alone supported 27 refineries and similar numbers existed at points in the area. The technology of these refineries varied, with the simplest utilizing open containers to heat the crude and produced very small amounts of usable petroleum products each day, but all worked to separate crude oil into its component usable parts. By the 1880s and 1890s refining technology had advanced to the point that distilleries, designed for the purpose, heated the crude oil and directed the steam, or purified gaseous liquid, that had been produced by the heat to separate storage containers. On the way to those containers the steam would be cooled and the separated product would return to a liquid form, now purified. The functional key to the process was the different boiling points of the various components. Thus at one temperature, one product would rise through the pipes; at another, higher, temperature, another product would be separated; at another temperature, yet another product would separate. While the technology certainly seemed elaborate in the Gilded Age, and while its products appeared nothing less than magical, the process itself was a marvel of simplicity. With that process, refineries could multiply, access was open because of

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**National Register of Historic Places
Continuation Sheet**

Section number 8 Page 8

**C & H Refinery
Niobrara County, WY**

Statement of Significance (continued)

its limited capital requirements, and the labor required to operate such a refinery was not especially a burden either in terms of quantity or skill. So refineries sprang up wherever there was a source of crude oil that needed to be processed and turned into a marketable commodity.

The economics of the refining business, however, soon altered this pattern of independent, decentralized refineries. The competition that prevailed, both locally and nationally, for the oil refineries, appears to have generated efficiencies in technology and lower prices for consumers. That pattern continued in the various oil fields as opportunities emerged to meet the needs of both producers who actually had large quantities of unmarketable fluids on their hands and of consumers (individual and corporate) who could use the refined products. At the same time, the flow of oil through the schematic pipeline of production, refining, and distribution was vulnerable to a constriction, to efforts of control. After the Civil War, for example, John D. Rockefeller, gained control of one of the refineries in Cleveland. He used the production from that refinery as leverage then to gain control of more of those refineries (through a variety of means including threats, intimidation, and outright coercion) and soon had reached a position where he controlled all of them, and thereby had the ability to set the price low that he paid producers for their crude and the price high that he received from the distributors. With his Standard Oil Company, in legendary and prototypical fashion, he moved to eliminate his competitors in the region and then the nation. The small, independent, decentralized, oil refinery was becoming a feature of the past by the 1880s. By the turn of the century, Standard Oil's monopoly was virtually complete and had extended from refining to production and distribution as well.

The hopes for breaking the hold of the Rockefeller monopoly on the country mainly rested in the possibility of new discoveries of oil outside the Pennsylvania/Ohio region, in places where independents might be able to operate without the pressure or controls of Standard Oil.

Ultimately the major challenge to the Standard Oil monopoly came from the new fields (and companies and refineries) developed in Texas and Oklahoma in the 1910s and 1920s. Even so, other challengers emerged. Wyoming appeared a likely place for independent companies to come forth. Indeed, oil had been discovered in the area some time earlier by emigrants and had been explored and pumped in the 1890s. The first and, for a while, only refinery in the state was placed in Casper in 1895. This was a small refinery owned by the Pennsylvania Oil & Gas Co. The technology utilized at this refinery resembled that employed at other refineries during this era. Petroleum refining equipment typically included stills, boilers, agitators, and various kinds of storage tanks.

The work force at this refinery included a superintendent and two workers. Their tasks, again representative of the technology of the time, included "such duties as firing the steam boiler, charging and firing the still, running the agitator, finishing up the various grades of engine, valve and car oils, and loading the refined product for shipment."

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**National Register of Historic Places
Continuation Sheet**

Section number 8 Page 9

**C & H Refinery
Niobrara County, WY**

Statement of Significance (continued)

The refinery itself operated efficiently, although its products appear to have been restricted to lubricating oils. The weakness of the operation, however, was the difficulty of transporting the abundant oil in the Salt Creek Oil Field about 40 miles north of Casper, to the refinery. The only way that crude oil reached Casper was by being hauled in tanks on wagons by 18 to 22 horses; each round trip required about a week. That trip would deliver fifty to sixty-five barrels of crude oil.

As rudimentary as the operation may appear, it managed to survive. More oil wells began to produce in the Salt Creek field and it provided more opportunity for the refining business in Casper. In 1903 the Société Belgo-Américain des Pétaoles du Wyoming (commonly known as the Belgo-American Company) purchased the holdings of the Pennsylvania Oil & Gas Co. The challenge to this new enterprise was considerable. In fact, at the heart of some of the Belgo-American efforts was the hope that the company "will force the hand of the Standard Oil company and open up the Wyoming fields in spite of the acknowledged opposition of the Standard." That company, however, went into liquidation and then sold its operation to the Franco-Wyoming Oil Company in 1910. The Franco-American continued its operation in downtown Casper (on Wolcott between Railroad Avenue and the C & N W railway tracks) but also built a new refinery on the eastern edge of town (in the location of modern Kelly Walsh High School). More significantly, though, the Franco-American company constructed a pipeline to the Salt Creek field, an innovation that dramatically increased the flow of oil to the refinery.

With the new opportunities having been demonstrated, another company organized in 1910, known as the Midwest Oil Co. The Midwest built a refinery on the western edge of Casper which began operating in 1912 and also constructed a pipeline to the Salt Creek fields. Then in 1913 the Franco-Petroleum Company (the Franco-American having reorganized after consolidating with the Natrona Pipe Line and Refining Company), built a refinery near the Midwest refinery west of Casper. In 1914 the Midwest Oil company and the Franco-Petroleum Company merged. While there remained, for the time being, four refineries in Casper, they were now owned by one company—the result of a process of consolidation and centralization similar to that which had shaped the refining industry in the East when Standard Oil surged toward dominance.

Two significant developments outside the state in 1911 fundamentally reshaped the refining business in Wyoming. One was an economic shift, and the other was a technological innovation. In that year the United States Supreme Court upheld the federal government's anti-trust prosecution of Standard Oil's monopoly as a violation of the Sherman Anti-Trust Act. This caused the company to be broken into multiple parts, although the holding company structure (which enabled a single parent company to own and control ostensibly separate and competing companies) continued. In this new environment, however, the Ohio Oil Company, also known as Standard of Ohio, and the Standard Oil Company of Indiana began to operate in Wyoming. One of the key parts of the Rockefeller operation, and which Rockefeller controlled, the Ohio Oil Company had been the largest of Standard Oil's producing companies. As early as 1913, Standard Oil of

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Continuation Sheet**

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**C & H Refinery
Niobrara County, WY**

Statement of Significance (continued)

Indiana began building a refinery in Casper immediately east of the Midwest Refining Company. By 1914 it was in operation. In this way, Standard Oil became active both in production and refining in Wyoming.

The second development of 1911, an alteration in refinery technology, became manifest in Wyoming in 1914. In their early years, refineries produced gasoline, but it largely amounted to a waste product, too explosive for most domestic uses and unmarketable for other applications. By the early years of the twentieth century, however, the utilization of gasoline in the internal combustion engines of automobiles which were rapidly expanding in their role in society created an entire new market. In 1910, for the first time, sales of gasoline exceeded sales of kerosene. The conundrum shifted from how to reduce the waste (gasoline) in the distilling process to how to increase the production of gasoline from each barrel of crude. William H. Burton, a chemist in the employ of Standard Oil of Indiana, developed in 1911, immediately prior to the dissolution of Standard Oil, a new refining process. This process - called thermal cracking—involved the heating of crude oil, just as the earlier processes had. What was different, though, was that now the crude was being heated under pressure; the combination of forces - heat and compression—caused the carbon molecules to divide, or "crack" into smaller molecules, creating a usable automobile fuel. Standard of Indiana developed some of the new stills and in 1914 it started to license the technology to other refineries. In 1913 it began construction of its new refinery in Casper and in 1914, the Indiana Standard's new refinery in Casper began operating with the technology of the "Burton pressure stills."

As additional "pressure stills" began to emerge around the state, the older refineries were left behind. They were made obsolete technologically and redundant economically. Indeed, in 1921 Standard Oil of Indiana acquired the Midwest Company, and there was only one refining operation left in Casper. The same process of consolidation that had been at work elsewhere in earlier years had worked its effect again in the Casper, Wyoming oil refineries. The refineries using the new pressure stills spread around the state so that by the middle of the decade of the 1920s eight refineries operated in six cities in Wyoming. These included, notably, operations by Standard of Indiana at Casper, at Laramie, at Greybull, and at Glenrock. The refinery at Glenrock began operation in May, 1922, under the supervision of L. E. Chamberlain.

The historical record, as is often the case, often chronicles carefully and with great enthusiasm innovations, start-ups, and the rise of great economic ventures. As is also often the case, the record often seems mute in detailing the fate of those other ventures that were displaced by economic growth and change. In particular, in this instance, one can only assume that the earlier petroleum refining technology, unable to be adapted to the much more demanding standards of pressure distilling, was phased out incrementally and that the equipment was simply sold for scrap or set aside to be dispensed with later.

It appears to have become increasingly difficult to find buyers for the large stills since the oil boom that had reshaped much of Wyoming from 1914 to 1924 began a decline in the middle of the twenties. Despite a

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Statement of Significance (continued)

gesture in the direction of recovery in 1925 and 1926, the spiral downward between 1927 and 1929 gutted the petroleum business in the nation and in Wyoming. Part of the problem was the increase in the ability to extract higher quality fuels from crude, making the increased production of crude that much more redundant; part of the problem was the change in petroleum consumption making gasoline of greater demand than fuel oil; and part of the problem was the decline of competition in the petroleum business as the giants took control. All three parts can be seen in Wyoming with the ascendancy of the automobile, the sophistication of the refineries, and the consolidation of power.

In the 1920s, while the rest of the nation underwent a transformation that saw the country for the first time having more people live in towns and cities than in villages and the countryside, that saw a migration from farm to town, that saw the rise of urban infrastructures and cultures to power, Wyoming largely remained rural. At the same time, the revolution in consumer conveniences had reached the state, but the ability to provide power for those conveniences had not caught up to the potential, nor would it do so until at least the 1950s. Fuel oil in some instances, began to replace coal and wood as energy sources in the small towns and villages, especially when they were near sources, which is to say, not far from refineries.

By the early 1930s the Ohio Oil Company had become a dominant name in the crude oil business of the western United States. They exercised proprietary control over the oil wells at the Lance Creek, Wyoming field near the eastern border of the state. Ohio Oil supplied crude oil to neighboring communities in southwestern South Dakota, western Nebraska and eastern Wyoming, however, their main source of crude oil was oil fields in the Bighorn Basin of Wyoming. Ohio Oil supplied crude oil via pipeline to refineries in the midwestern United States. The Lance Creek Oil Field was a source for some of this oil.

An important factor in regard to the founding of the C&H refinery was the type and quality of the available crude oil. The crude oil produced at the Lance Crude Field is a paraffin based, high gravity, "sweet" oil. This type of oil is much simpler to refine than asphaltic, low gravity, "sour" (sulfur) crude oil, which is the predominant type of crude oil that is produced in the Bighorn Basin. If the crude oil produced at Lance Creek were asphaltic "sour" crude, the simple technology and equipment available at the Lusk refinery would have been inadequate for distilling the asphaltic crude oil. Additionally, because it was more economical to move crude oil by pipeline, locations as far away as Chicago were receiving Lance Creek oil.

Roy Edwin Chamberlain, businessman, oil man, and educator, was born and raised in Brownsville, Nebraska. After graduating from what is now Nebraska State College at Peru, Nebraska, he took a position as principal and coach at the high school in Brownville, Nebraska. In the following year, he came to Wheatland, Wyo. to teach math and chemistry at the high school. After two years of teaching in Wheatland, he went to work for Ohio Oil in the Big Muddy Field near Glenrock.

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Statement of Significance (continued)

Later that same year he was promoted and transferred to Lance Creek. In 1933, when the Great Depression necessitated a cut back in the payroll, the Ohio Oil Company put everyone on half time. Roy Chamberlain recognized the strategic importance and opportunity provided by the location of the existing pipeline which moved oil from the Lance Creek oil field past the town of Lusk and south to Ft. Laramie. Chamberlain worked as a chemist and warehouseman for Ohio Oil. He didn't like the idea of working only half time and was itching to have his own business. He secured permission from Mr. Holland, the General Superintendent for Ohio Oil in the region, to extract Lance Creek crude oil from the pipeline for his own use. He encouraged James Hoblit, another Ohio Oil employee, originally from Nebraska, to join him as a partner and build an independent oil refinery at Lusk, Niobrara County.

Roy Chamberlain and James Hoblit were men with great vision and ambition, but very little capital. Fortunately, by 1932 the Pennsylvanian Belgo-American Refinery equipment brought to Wyoming in 1895 for Wyoming's first refinery was obsolete. Most important to Chamberlain and Hoblitt, it was available. Although it is not clear exactly how they acquired the used equipment for their refinery enterprise, experts from the Drake Well Museum in Titusville, Pennsylvania (Susan J. Beale personal communication) are convinced that the tiny, upstart independent C & H Refinery was assembled with what was essentially "antique" refinery equipment salvaged from the abandoned Pennsylvanian Belgo-American refinery near Casper. Whether they simply asked for the antiquated equipment which may have been sitting in the then long abandoned refinery or which may have been sitting in a "bone yard" of obsolete equipment available for a minimal scrap charge is not clear.

While Chamberlain and Hoblit undoubtedly possessed indomitable will, as well as creative problem solving skills, they could easily be termed novices in the field of refinery building. Their worthy guide, Mr. Leon E. Chamberlain, Roy's elder brother, offered important professional assistance. Leon, then superintendent of the Standard Oil (of Indiana) Refinery at Glenrock, had risen to this appointment from a common labourer in just two years because of his extraordinary drive. It is believed to have been his recommendation and advice that resulted in the refinery equipment from Casper being lifted as scrap and transferred to Lusk for installation. The site provided them with tremendous advantages due to the presence of the Ohio Oil Company oil pipeline of located just to the north of the refinery's proposed location. Additionally, Lusk's central location with respect to potential consumers in eastern part of Wyoming and western parts of Nebraska and South Dakota placed it at near major oil transportation lines.

A number of crude oil storage tanks and other stills converted for storage were also salvaged from around the area and brought in for use at the C & H Refinery operation. Most remain intact in their original C & H operation locations, preserving an interesting collection of late 19th and early 20th century crude oil processing and storage technology.

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Statement of Significance (continued)

In this small, isolated farming community, the refinery created a limited number of job opportunities for residents and probably never employed more than ten individuals between the refinery and related fuel delivery services. The world wide economic malaise which became known historically as "the Great Depression" had erratically affected an area which had been generally depressed for decades. Construction of the C & H Refinery did not produce an immediate and direct link to economic development.

However, construction of the C & H Refinery provided significant opportunities for the men who, in true Horatio Alger fashion seized an opportunity, took a risk and created for themselves their own personal 'American Dream' success story. Although they were apparently too poor to purchase new equipment for the establishment of their joint venture refinery in 1933, by 1935 Mr. Chamberlain was able to sell his half of the operation resulting in enough available capital to purchase the Ranger Hotel in Lusk. By 1936 Chamberlain's partner, James Hoblitt, even after having bought out Chamberlain, had enough money from the refinery operation that he was able to devote more of his time to local ranching operations. The refinery remained in the Hoblitt family and was operated by them until it was sold in 1974. Both men became prominent local figures.

In 1943, Mr. Chamberlain was elected State Senator from Niobrara County and served in the Senate for three terms. He served as president Ad Interim of the Senate, presided over a special session, and achieved a measure of political prominence in Wyoming government.

Throughout his life, he remained interested in the oil business. He was one of the founders of Ranger Oil Company, which is now an international corporation with its home office in Calgary, Alberta. He was also director and president of Tom Bell Royalty Company until that company merged with Glasscock Oil Company to form Bell Western Corporation, after which he became director of the new company.

The C & H Refinery is also significant because of its association with the broader context of the Oil industry in the United States. At a national level of consideration, there were stark economic differences between the C & H operators and their competitors. The competitors of C & H were the large and powerful companies who were the wealthy patrons of the refining industry at the time. Among them were Standard Oil of Indiana, Continental Oil Company (more recently Dupont/Conoco), Texaco, and Standard Oil of New Jersey (now Exxon/Mobil). These competitors would literally become international king-makers as the world became more and more dependent on this aromatic black fluid and the amber fuels it yielded. The owners of the C & H operation managed to modestly, yet persistently and perhaps, stubbornly, operate in the same market as these industry rulers until the mid 1970s.

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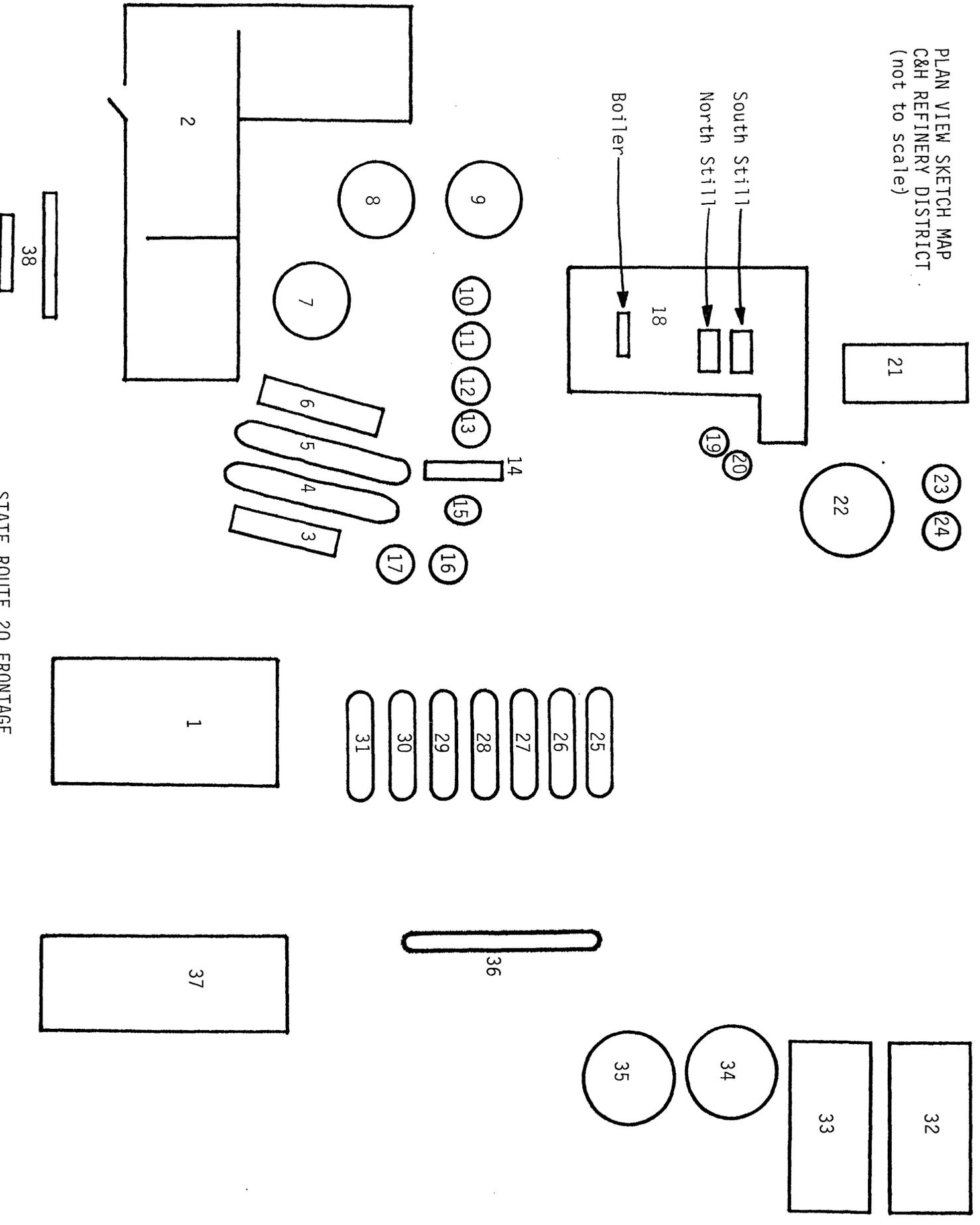
Verbal Boundary Description and Justification - The C & H Refinery district is located in the E1/2/NE/NE of Section 18, T32N, R63W. The district is surrounded by a series of wire and barbed wire fences which serve as the boundary for the property. The fences contain all operational facilities, tanks, and structures that have historically been part of the refinery and that demonstrate historic integrity. These facilities, tanks, and structures are shown on the attached plan view sketch map of the refinery.

**With deep respect and affection, this historical document is dedicated to the memory of my late aunt,
Sitara Nawaz. Words cannot express my gratitude.**

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PLAN VIEW SKETCH MAP
C&H REFINERY DISTRICT
(not to scale)



STATE ROUTE 20 FRONTAGE