



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 6

1445 ROSS AVENUE, SUITE 1200

DALLAS TEXAS 75202-2733

August 29, 1998

FINDING OF NO SIGNIFICANT IMPACT

To All Interested Government Agencies and Public Groups:

Pursuant to the requirements of Section 511(c) of the Clean Water Act (CWA) and the environmental review procedures at 40 CFR Part 6, *Procedures for Implementing the Requirements of the Council on Environmental Quality on the National Environmental Policy Act*, the U.S. Environmental Protection Agency (EPA) has conducted an environmental assessment for the proposed issuance of New Source National Pollutant Discharge Elimination System (NPDES) Permit No. TX0116165.

Applicant: Qualitech Steel Corporation
8515 Upriver Road
Corpus Christi, Texas 78409

Type of Facility: Iron Carbide Production

Location: Along the western reach of the Corpus Christi Inner Harbor on the west side of the Tule Lake Turning Basin.

1.2 Proposed Project. Qualitech Steel Corporation (QSC) proposes to construct an iron carbide production facility on a 13-acre portion of an 18-acre site located in an industrial area near Corpus Christi, Texas. The facility is designed to produce 660,000 metric tonnes/year (727,500 tons/year) of iron carbide (Fe_3C - cementite) at an average rate of 9,000 metric tonnes/day. The product will be sold to the primary metal industry for use to supplement the iron and steel scrap material feedstock for electric arc furnaces.

The feedstock iron ore for the facility will come from the Companhia Vale do Rio Doce's Carajas mine in Brazil. The product iron carbide will be continuously transferred by conveyor from the process area to barges or railcars, or to a storage area. All loading, storage and transportation areas will under protective cover to minimize emissions and keep the product and feedstock dry as required. The proposed start of construction date for the facility is late Summer 1998.

The proposed project site is owned by the Berry Group Ltd. of Corpus Christi, who will be responsible of off-loading, storing and delivering the ore from the vessels to the QSC plant site. The site has access to deep draft ocean-going vessels. In addition to the administrative building, control house and maintenance building, the facility will include an electric substation, a saltwater intake structure on the Viola Channel for non-contact, once-through cooling water,

and a discharge outfall for once-through, non-contact cooling water on the Tule Lake Turning Basin. Other units include a product transport conveyor, gas heaters, flares, dryers, a railcar loading facility and a barge loading dock. Future plans include collecting the by-product distilled water for sale to a local buyer. QSC has an option to 10 additional acres for future use.

Finding. On the basis of an environmental assessment of the Environmental Information Document submitted by the applicant and other available information, the Regional Administrator has made a preliminary finding that construction and operation of the proposed facility will not result in any adverse significant impacts on the environment and that an Environmental Impact Statement (EIS) is not required. The proposed site is in a developed industrial area so that clearing and excavation activities associated with site preparation will have minimal effect. There are no sensitive, rare or special features affected.

On the basis of the environmental review and assessment of the proposed project, the recommended alternative is to issue a Finding of No Significant Impact (FNSI) and approve the permit action to cover the new source discharge under NPDES permit TX0116165 as proposed. Comments regarding the decision not to prepare an EIS will be accepted during the thirty (30) day period following the public notice of the preliminary FNSI. The decision will be finalized with the issuance of the final permit decision. Address all comments and requests for review of the administrative record supporting the finding to:

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1.0 PURPOSE AND NEED FOR ACTION

1.1 General Information.

Proposed Action: Issuance of New Source NPDES Permit TX0116165

Applicant: Qualitech Steel Corporation
8515 Upriver Road
Corpus Christi, Nueces County, Texas 78409

Type of Facility: Iron Carbide Production

Location: Along the western reach of the Corpus Christi Inner Harbor on the west side of the Tule Lake Turning Basin.

1.2 Proposed Project. Qualitech Steel Corporation (QSC) proposes to construct an iron carbide production facility on a 13-acre portion of an 18-acre site located in an industrial area near Corpus Christi, Texas. The facility is designed to produce 660,000 metric tonnes/year (727,500 tons/year) of iron carbide (Fe_3C - cementite) at an average rate of 9,000 metric tonnes/day. The product will be sold to the primary metal industry for use to supplement the iron and steel scrap material feedstock for their electric arc furnaces. The proposed start of construction date for the facility is late Summer 1998.

QSC will produce iron carbide using iron ore (hematite - Fe_2O_3), methane (CH_4) and hydrogen (H_2) as feedstock. The iron ore will come from the Companhia Vale do Rio Doce's Carajas mine through the Ponta Da Madeira Maritime Terminal in Brazil. The product iron carbide will flow continuously from the process area via conveyor onto barges or railcars, or to a storage area pending loading to a barge or rail. All loading, storage and transportation of the iron carbide will be done under protective cover to minimize emissions and keep the product dry as required. There are no equivalent facilities in the United States.

The proposed project site has access to deep draft ocean-going vessels. The east and north sides of the site border the Tule Lake Turning Basin which is located at the west end of the Tule Lake Channel reach of the Corpus Christi Inner Harbor. The dock facilities for QSC will be constructed on a strip of undeveloped land at the eastern portion of the site. The docks and other support facilities will be owned and operated by the Berry Group Ltd., which also owns the proposed project site and will be responsible for off-loading, storing and delivering of the ore from the vessels to the QSC plant site. In addition to the administrative building, control house and maintenance building, the facility will include an electric substation, a salt water intake structure on the Viola Channel for non-contact, once-through cooling water, an outfall to the Tule Lake Turning Basin for discharge of the once-through, non-contact cooling water. Other

units include a product transport conveyor, gas heaters, flares, dryers, a railcar loading facility and a barge loading dock. QSC holds an option to 10 more acres for future plans (see Appendix A) which includes possible sale of the by-product distilled water to a local buyer.

1.3 Recommendation. The construction and operation of the new source facility will not result in any significant adverse impacts on the environment. The site is a dredge spoil deposit area located in a developed industrial area so that clearing and excavation activities associated with site preparation will have minimal effect. There are no sensitive, rare or special features affected. On the basis of the environmental review and assessment of the project as proposed, the recommended alternative is to issue a Finding of No Significant Impact (FNSI) and approve the permit action to cover the new source discharge under NPDES permit TX0116165 as proposed.

2.0 ALTERNATIVES

2.1 Alternatives Available to the EPA

Approve the project as proposed. EPA can approve the permit action for the project as proposed.

Modification of the project. Additional information received during the EA process could result in the identification of significant adverse impacts that require mitigation. Modification of the proposed project to eliminate or mitigate the adverse impacts may allow the EPA to accept the modified project and recommend approval of the permit action.

No Action. A determination that the project as proposed could result in potentially significant adverse impacts to the environment that cannot be satisfactorily mitigated would preclude a recommendation of approval of the permit action. The preparation of an Environmental Impact Statement (EIS) would be recommended to evaluate the potentially significant impacts. The EIS process requires a scoping process which includes a scoping meeting to identify critical facts and issues, the preparation of a Draft EIS, a public comment period on the Draft EIS, a public hearing on the Draft EIS, the preparation of the Final EIS, a public comment period on the Final EIS, and the Record of Decision. The result of the EIS process would be a recommendation to the Regional Administrator that the permit action be approved or denied.

2.2 Alternatives Considered by the Applicant.

Site. QSC considered a number of sites for the location of its facility, including the Houston Ship Channel and Pascagoula, Mississippi. A primary consideration for selection of the Corpus Christi site was accessibility to ship and barge transportation for the delivery of raw materials and shipment of end product by way of rail or barge. The Corpus Christi Inner Harbor was ideally suited for this purpose. In addition, the area was in a position to offer the necessary services, in particular natural gas and electricity. Local authorities are actively pursuing opportunities for economic expansion, as demonstrated by execution of an industrial district and a tax abatement agreement with QSC.

Process. Because of the scarcity of fresh water in the region, QSC has decided to replace traditional treated water use cooling towers with a non-contact, once-through cooling water

system using seawater extracted from the Viola Channel and discharged into the Tule Lake Turning Basin. The proposed cooling system represents an increase in capital costs over a conventional cooling tower system.

3.0 AFFECTED ENVIRONMENT AND PREDICTED ENVIRONMENTAL IMPACTS

3.1 Water Resources.

Ground water. The proposed project site is underlain by Beaumont Clay of Pleistocene age which consists of predominantly clay interbedded with layers of medium to fine sand, and yields small to moderate quantities of fresh to moderately saline water. Below the Beaumont Clay are the Chicot and the Evangeline aquifers which are the primary and secondary hydrogeologic units. These aquifers consist of discontinuous layers of sand and clay of about equal total thickness. Depth to the base of the Chicot aquifer in the project area is about 500 feet below mean sea level (msl), while the depth to the base of the Evangeline aquifer is approximately 1,900 feet below msl. The recharge zones for these aquifers are in the counties to the northwest and west of the project area. The rate and direction of ground water movement in Nueces County ranges from tens to hundreds of feet per year toward the Gulf of Mexico.

Surface Water. The Nueces River and its tributaries are intermittent streams which flow from limestone canyons of the Edwards Plateau for approximately 315 miles to the Nueces Bay in the Gulf of Mexico. The water supply for the Corpus Christi area comes from Lake Corpus Christi and Choke Canyon Lake in the Nueces River Basin. The quality of the water in the Nueces River Basin is generally very good. The primary concerns with the water quality of the basin are nutrient and bacteria related. The project site is in the Water Quality Segment 2484 of the Bays and Estuaries Basin.

Fresh water use in 1990 was about 1.39 million acre-feet, of which 81 percent was used for agricultural production. The total fresh water entering the coastal basin averages about 1.1 million acre-feet/year (Texas Water Development Board, 1997). Between 1968 and 1987, the inflow of fresh water into the bay system declined significantly because of controlled reservoir releases and sparse rainfall in the watersheds. Corpus Christi receives approximately 30 inches of precipitation annually. The highest average precipitation is during the month of September, coinciding with the highest incidence of tropical storms. However, every month is characterized by a moisture deficiency. The combination of low level precipitation with year-round warm temperatures result in a potential for high evaporation and plant transpiration.

Development of the site, including the building, process and containment areas, and the paving or covering of portions of the remaining open areas will make 5 to 7 acres of the site impervious. However, the run-off coefficient for the site at completion of the project is estimated in the range of 0.3 to 0.5. because more than half of the 18 acres of the site will remain undisturbed natural sandy areas.

Mitigation Activities. Because of the scarcity of fresh water in the region, QSC has decided not the use traditional cooling towers which use treated water. Instead, QSC will use a non-contact, once-through cooling water system using seawater from the Viola Channel. QSC has applied to

the Texas Natural Resource Conservation Commission (TNRCC) for authorization to divert a maximum of 100,00 gallons per minute (gpm) from Viola Channel from a depth of 20 to 33 feet. The water will be discharged into the Tule Lake Turning Basin located just east of the facility. The proposed cooling system represents an increase in capital costs over the conventional cooling tower system. QSC will not divert from or discharge to the Nueces River and is not expected to have an impact on the body of water. Additionally, the 600 gpm (maximum) of distilled water blowdown stream generated from the process cooling water system will be available for industrial use and may be sold to another user, recycled or discharged into the Tule Lake Turning Basin. The discharge of the distilled water could reduce the salinity of the receiving waters by 0.2 parts per thousand (ppt).

The site is contained within a substantial dike and is slightly sloped towards the center of the property to channel storm water run-off to a five-acre sediment pond at the northeast portion of the site, which is designated for future expansion. Precipitation from process areas potentially contaminated by iron ore, iron carbide or other particles will be collected and diverted to the cooling water intake structure for re-use as cooling water. A rocky berm within in the central drainage swale will serve to reduce sheet flow velocity and reduce pond bank erosion, bottom scouring, and to help reduce sediment and debris. The primary erosion control will be accomplished through grading of the site, compaction of the sand substrate, and revegetating disturbed areas as soon as final grade and compaction are achieved. Temporary sediment controls will be provided down gradient of all disturbed areas, including the use of silt fences to control sheet flow. Enclosing plant operations in buildings will help keep the potential for contamination of run-off water low. EPA storm water permit TXR00II761 was assigned for coverage of the construction in August 1996, and continued in September 1997.

3.2 Air Quality and Emissions. Air emissions from the facility will consist of combustion products from the burning of natural gas and particulate emissions from handling of the iron ore and iron carbide. Nitrogen oxides (NO_x) are produced by combustion of natural gas in the Ore Heater and the Process Gas Heaters. These sources burn only natural gas with no fuel-bound nitrogen. Based on de minimis levels established to determine significant impacts under Prevention of Significant Deterioration (PSD) regulations, it was determined that the increased concentrations of air pollutants would neither create significant impact nor exceed ambient standards. Emissions will not exceed 100 tons per year for any of the control pollutants.

According to the TNRCC, the area around the Corpus Christi area meets the National Ambient Air Quality Standards (NAAQS), and is designated an attainment area for all criteria pollutants. NO_x emissions will be controlled by the use of low NO_x burners installed in the Ore Heater and the Process Gas Heaters. A maximum NO_x emission rate of 0.06 pounds of NO_x per million BTU LHV is expected. Sulphur dioxide (SO₂) emissions will be minimal because of the very low sulphur content of the natural gas fuel. Carbon monoxide (CO) emissions will be minimized by combustion control efficiency, maintained through the use of a burner management system and good maintenance procedures. Materials containing volatile organic chemicals (VOCs) may be used in maintenance activities, but no significant sources of VOC emissions will be present on site.

Particulate matter (2.5 and 10 microns, PM_{2.5} and PM₁₀, respectively) emissions will be the primary contaminant associated with material handling. Particulate matter emissions may result from the movement of the iron carbide product and iron ore feedstock. All transfer and drop points will be covered and evacuated to one of the baghouses. Baghouse equipment will be state-of-the-art resulting in an outlet grain loading of 0.01 grains per dry standard cubic foot, equivalent to the best available control technology. All transfer points not ducted to a dust collection system will be enclosed. Major roads will be paved to minimize dust emissions. The TNRCC is currently reviewing the air quality permit for QSC. Potential cumulative impacts will be addressed in that evaluation and National Ambient Air Quality Standards (NAAQS) will be maintained as required by the TNRCC.

Allowable Facility Emission Rates*

Pollutant	NOx	CO	PM₁₀	SO₂
Facility Allowable (tpy)	163	117	81.5	1.7
Major Source Threshold (tpy)	250	250	250	250

*Prevention of Significant Deterioration (PSD) threshold values. The facility is a minor source.

Berry Group Ltd., the owner of the QSC property, is currently seeking authorization to provide material handling service support for the QSC facility. Some of the activities currently proposed within the Berry Group Ltd. permit application overlap with QSCs permitted activities and may require amendment of both permits to ensure that allowable emissions are not exceeded. The TNRCC permitting process will evaluate both the proposed QSC and Berry Group Ltd. operations.

3.3 Land Resources.

Site. The project site is located within the Corpus Christi region of the Texas Coastal Plain near the Tule Lake Turning Basin. The region is characterized by broad areas of relatively flat coastal prairies, chaparral pastureland, and farmland ranging from 10 to 20 feet above msl. Eighty-five percent of the land in the general area is rural and undeveloped. Approximately 10 percent of the land contains industrial, commercial and residential development. The site is within an industrial area located up and across the Nueces Bay from the San Patricio County industrial area, which has the highest concentration of heavy industry such as refineries, petrochemical plants, metal processing facilities in the region. The Union-Pacific Railroad right-of-way borders the site to the south, and the Viola Ship Channel portion of the Corpus Christi Inner Harbor is to the north. Immediately south of the Union-Pacific Railroad right-of-way and switching yard area are marsh lands and Tule Lake. Beyond the marsh lands, approximately 0.75 miles from the site, is Upriver Road. There are a number commercial and light industrial facilities, and a few residences located along this portion of Upriver Road. Interstate 37 lies approximately one mile south of the site. One mile to the west is the Koch Refinery. Project Homeport, a military shipyard for battle ships and support vessels is located about five miles southeast on the Corpus Christi Ship Channel.

The site itself is has been graded to an elevation of 13 feet msl and is part of a dredge spoils deposit area which extends beyond the QSC site to the east and west sides. The west side

of the QSC site slopes downward toward an old dredge spoil dewatering pond. Prior to site preparation, the entire dredge spoils area was surrounded by a 10 to 15-foot high dike composed of native material and dredge spoil. The spoil material is characterized as fine and medium-grain sand. The north-central portion of the site was used to collect storm water drainage. There is a thick growth of cattails around the storm water collection area.

Prime Farmland. The site was previously used as a repository of dredge material and is covered with low, herbaceous vegetation such as grasses and weedy annuals. Vegetation is generally sparse with exposed areas of sand between clumps of vegetation. The project site has little potential as prime farmland; its only agricultural value would be as rangeland. According to the Natural Resource Conservation Service (NRCS), on-site soils consist of Galveston and Mustang fine sand (0-8 percent slopes). These soil occurs along coastal strips of the mainland and in a few areas on off-shore islands. The soils are highly permeable and not suitable for crops, and are mostly used for grazing range.

Infrastructure. The site is approximately 3.5 miles due north of the Corpus Christi International Airport and can be accessed by Interstate 37. The county has recently extended the existing county road (Marvin L. Berry Road) to serve the QSC Plant. The design Average Daily Traffic (ADT) of 750 vehicles or more is not expected to be exceeded for many years. Adjacent roadways presently handle high industrial traffic volumes with typical ADT of between 2,000 and 3,500 vehicles. QSC is planning to receive its raw materials and distribute its finished product by ship, barge and rail and will have no impact on the adjoining roads. Methane will be supplied by Enron via pipeline. Hydrogen and nitrogen will also be supplied by pipeline from Air Liquide.

Electricity will be supplied by Central Power and Light Company of Texas. CP&L plans to serve QSCs Phase I facility with 18 megawatts (approximately one percent of the Corpus Christi area load) by constructing a 138/24 kilovolts substation in the 138 kilovolts transmission lines between CSW Nueces Bay and Lon Hill Power Station. Normal loading on this line is currently approximately 55 megawatts. Ample capacity exists for the proposed future Phase II and Phase III expansion (see Appendix A). Potable water will be obtained from the city of Corpus Christi. Monthly usage is projected to be on 37,500 gallons. The Nueces County Department of Public Works added the project area to the 911 addressing and emergency service system when Marvin L. Berry Road was extended.

The area within a one-mile radius of the facility is primarily undeveloped. There are no schools within 3,000 feet of the facility, and the nearest residences are about 0.75 mile south of the site on Upriver Road. The plant will be visible from the residences due to the flat topography, but its location in an industrial area does not cause it to stand out. The noise from the facility is not expected to be noticeable compared to nearby rail operations or neighboring industries. There are no adverse public health impacts expected from the proposed project.

QSC has obtained a permit for construction of an aerobic treatment system with liquid disposal by on-site irrigation. Care will be taken to ensure that surface seepage of sanitary waste does not occur. A construction permit has been issued by Corpus Christi-Nueces County Department of Public Health. The main sources of waste are likely to be office trash and waste

from the maintenance of equipment. This material will be drummed, labeled and stored prior to off-site disposal at an authorized treatment, storage and disposal facility. No hazardous waste generation is expected. No significant accumulation of waste is expected; traffic providing waste disposal activities is not expected to be significant. At a maximum, industrial wastes may require disposal on a quarterly basis, and routine office trash will be collected from the site biweekly.

3.4 Biota.

Flora. The site is covered with low, herbaceous vegetation such as weedy annuals. The vegetation is generally sparse with exposed areas of sand between clumps of vegetation. There are no trees on the site. Because the site was formerly used as a dredge spoils depository, the impact of the construction and operation of the QSC facility on vegetation is similar to the impact from the depositing of the dredge spoils area on vegetation. Disturbed areas will be stabilized (protected from erosion) by re-establishing vegetation to hold soils in place and reduce the rate of storm water flows.

Fauna. The waters and surrounding lands of the Nueces River Basin provide a home for some 2,342 documented species of animals. Nearly 500 recorded species of resident and migratory birds make the Coastal Bend the richest avian country in North America. Temperate and tropical zones, open seas and vast deserts attract 80 percent of the continent's migratory bird species. Many species classified endangered or threatened by the U.S. Fish and Wildlife Service (FWS) or the Texas Parks and Wildlife Department (TPWD) inhabit or migrate through the central flyway of the Coastal Bend. Birds flock to "fallout" areas, such as the Padre Island National Seashore, where exhausted birds literally drop out of the sky after flying from Central and South America across the Gulf of Mexico. Spotted sea trout, flounder, redfish, black drum, barracuda, grouper, shark, Spanish mackerel, sailfish and tuna attract both inshore and offshore fishermen to the Coastal Bend. Bottlenose dolphins are also often sighted.

Qualitech will not have any ponds or pits on-site that could attract migratory birds or native species of birds or animals. Discharges of wastewater and storm water will maintain applicable water quality standards that were promulgated with wildlife protection consideration.

Aquatic Habitat. The Corpus Christi Inner Harbor is a dead-end barge canal that supports a diversity of aquatic species. The proposed intake structure will minimize entrainment of algae and planktonic larvae by maintaining a maximum flow rate of 0.5 ft/sec into the structure at a depth of 20 to 30 feet below msl, or depths with relatively low organism density. A 3/8-inch screen size

has been specified and agreed to by the TPWD. These design specifications were determined based on a literature review on entrainment studies conducted for electric power plant intakes. Results of the studies indicated that up to some threshold of cooling water flow, physical stresses usually create greater mortality by entrainment than thermal stresses. Therefore, the most effective way to minimize mortality is to decrease flow rates to the lowest acceptable level and operate cooling water systems at the highest temperature differential acceptable.

Socio-economics. Although Corpus Christi was discovered in 1519, it was 200 years before the first trading posts were established. By the 1840s, towns sprang up in the territory between the Nueces and the Rio Grande, land which became recognized as nutrient-rich ground for agriculture. Commercial harvesting of oysters and turtles, celebrated cattle ranches, such as the King and Kenedy ranches, have been prominent commercial activities since the late 1800s southern counties.

As Corpus Christi grew, increased shipping through a deepened channel bolstered the area's economy. Coastal factories processed and shipped tallow, hides and pickled beef on schooners destined for New Orleans, Cuba and England. Cotton, sorghum and vegetables were planted in the fertile soils of the region's northern and eastern sectors. The arrival of the railroad in the mid-1870s made farmers' and ranchers' products available to otherwise inaccessible markets and the area flourished. By 1926, the population had grown to 35,000. Agricultural commerce led the way in constructing the deepwater Port of Corpus Christi and, with the discovery of oil and natural gas, the Port began transporting high volumes of petroleum products. By 1960 regional development slowed dramatically. Although oil and gas production continued, oil prices plummeted in 1986 and forced one-third of the population to leave the Coastal Bend. Economic recovery has resulted from a greater diversity in the region's economy, and the Texas Gulf shoreline is now home to more than half a million people.

The economy of the coastal basin is based on agriculture, agribusiness, manufacturing, retail and wholesale sales, mineral production, commercial shipping, commercial fishing and tourism. The basin population increased from 853,000 in 1980 to 1.02 million in 1990. By the year 2050, it is projected to increase to about 2.74 million. Corpus Christi is the largest population center in the area, with a 1990 population of 273,620 (Texas Water Development Board, 1997). The current prosperity of the region is a result of diversification of the local economy. Declining water supply will limit agricultural activity in the future, and the area is no longer dependent upon the petrochemical industry.

Corpus Christi attracts 2.8 million visitors each year, adding \$128 million directly to the local economy in 1994. Industry, defense and tourism in the region contribute more than \$3 billion annually to the United States' Gross Domestic Product. The Port of Corpus Christi is the sixth largest in the nation. Port activities generated \$4 million in local tax revenues in 1993. Expansive rangelands in the south and large farms in the north also provide economic stability. Cattle account for more than 35 percent of agricultural activity, followed by sorghum, cotton, corn, wheat and oats. Farming and ranching revenues in 1993 were \$393 million at the local level with a statewide economic impact of \$1.2 billion.

Sport fishing is a big business on the Texas coast. Recreational anglers spend more than

\$546 million annually on food, lodging, transportation and fishing equipment. Direct and indirect expenditures associated with sport fishing generate almost \$1 billion per year for the state. Sport and commercial fishing began in earnest around 1880. The depletion of gamefish stocks allowed offshore brown and white shrimp to become the dominant seafood industry production base. In 1994, nearly nine million pounds of seafood were harvested from the three bay systems, with shrimp comprising the bulk of the catch. Texas ranks fourth nationwide in seafood production, with a commercial harvest valued between \$156 million and \$247 million yearly. At the turn of the century, Coastal Bend fishermen harvested approximately three million pounds of seafood from Aransas Bay, Corpus Christi Bay and the upper Laguna Madre systems. Turtles and oysters made up one-third of the catch.

QSC will employ over 40 to 45 trained high-tech employees, with an expected generation of over three times that number of jobs in support industries. In addition, construction of the facility will require the hiring of over 300 skilled construction workers. The city of Corpus Christi has entered into an industrial district agreement with Berry Construction and QSC, and Nueces County has agreed to a 100 percent tax abatement (except school taxes) for the two-year construction period and a 50 percent tax abatement for the first five years of operation.

3.5 Cumulative Impacts and Other Environmental Considerations.

Due to the distance between QSC and other neighbors, no significant cumulative air impacts are expected. There are no activities in the area of QSC that could create cumulative impacts in soil or groundwater at the site. There are no water intakes within 0.25 mile of the facility, and all diverted water will be returned to the system. There are no other significant discharges of heated water into the receiving stream, and the mixing zone does not overlap with the mixing zone of any other discharge.

QSC has made significant effort to avoid adversely impacting fresh water supplies, and has gone to great expense to actually produce water from the process. The only potential cumulative impact could be minimal additional requirements for facility potable water on regional water supplies. The presence of further significant industrial development along the Corpus Christi Inner Harbor could eventually shift the presence of vegetation and animals. Because of the limited size of the QSC site compared to the surrounding area, the contribution to impacts will be limited.

Endangered Species Protection. Appendix A lists a number of threatened and endangered species that may occur in Nueces County, including a 1983 siting of a Least Tern nesting colony in the Tule Lake area nearby. The QSC site is in an industrial area and is relatively small in area and impact potential compared to other industrial complexes in the area. There are no activities expected to occur at QSC that would increase the potential threat to these species or that would impact Tule Lake. A biological survey revealed that there were no significant biological resources, including threatened or endangered species, that would be directly affected by the proposed expansion. Endangered species determined to be potentially affected by the proposed project include the Brown Pelican, reported to nest in an area approximately three miles to the southeast on Pelican Island. Three colonies of brown pelicans presently live on the Texas coast.

In 1996, the colony on Pelican Island in Corpus Christi Bay supported about 35 percent of the state population of 2000 nesting pairs. Today, Sundown Island, in Matagorda Bay, and Pelican Island, in Corpus Christi Bay, support the two largest groups of nesting brown pelicans, with a smaller nesting group on Little Pelican Island in Galveston Bay.

Although marine turtles typically utilize off-shore, deepwater habitats, five species of threatened and endangered sea turtles, such as the green, hawksbill and Kemp's Ridley, are known to enter Corpus Christi Bay through Aransas Pass. Also, an endangered manatee may wander in from the southern Gulf of Mexico to graze sea grasses in Coastal Bend lagoons and estuaries. Arctic and American peregrine falcons, piping and snowy plovers, Alaskan curlew and reddish egrets are also found in the Coastal Bend.

The nearby Aransas National Wildlife Refuge provides a 66,000-acre protected habitat for the endangered whooping crane. Hundreds of other birds inhabit the refuge, where sand dunes, brushlands, grassy meadows, cordgrass prairies, tidal marshes, bays and freshwater ponds support abundant wildlife. The American alligator, white-tailed deer, javelina, coyote, wild pig, Rio Grande turkey, raccoon and armadillo also roam the refuge.

This area will not be directly affected by the proposed project. Increased ship traffic will occur in the area, which may create an additional risk due to accidental spillage of shipped materials. Juvenile and sub-adult sea turtle migration into the Bay and their intra-bay movement presents the possibility of injury by boat and ship traffic.

Floodplain, Wetlands and Coastal Zone Management. The propose site is within a 100-year flood hazard area (Federal Emergency Management Agency, 1987), but has been graded to an elevation of 13 feet above msl to correspond with the 100-year flood elevation. The facility foundations will be built up to an elevation of 14 feet, one foot above the 100-year flood elevation.

No wetland mitigation was required for this permit. Wetlands along Corpus Christi Bay are subject to regulation under the Corps of Engineers (COE) regulatory program. Any plans for construction of a new ship dock require a permit under Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act. The QSC property is covered by a COE dredge and fill permit that was renewed on January 26, 1996 (Permit No. 20890).

National Wetlands Inventory maps were reviewed for the QSC property. The two settling ponds appear on these maps and are classified PUBFx, indicating that they are excavated, semi-permanently-flooded palustrine systems. An oyster reef is located within 500 meters of the proposed discharge point. The TPWD assisted the Berry Group Ltd. in relocating the oyster reef and in wetlands mitigation for the adjacent site. The TNRCC has reviewed the application for a Section 11.121 water use permit and is in the process of issuing it. The review includes a Coastal Management Review.

Environmental Justice Issues. A basic Environmental Justice (EJ) analysis was performed to determine an EJ index for the area of the proposed project. The index for the one square mile area around the facility (one-half mile radius) was calculated at "0", and "4" for the fifty-square

mile area (four-mile radius) around the facility. The index goes from a low of 1 to a high of 100 (see Appendix A). The analysis is based on the percentage of minority people, the percentage of economically stressed households making less than \$15,000 a year, and the population within a one-half mile and a four-mile radius of the site in comparison with the percentages for the state. Both rates are in the lower range of the index scale and do not indicate a potential EJ problem.

Nominal Environmental Concerns. Because of the dredge spoil nature of the site, there is little probability for the presence of any archeological or cultural resource of value on the site. The project has been approved by the Texas Historical Commission (Appendix B). No historic or cultural resource will be affected by the construction of the project. The State Historic Preservation Officer has reviewed the plans for the project and has determined that no further investigation of archeological or historic resources is warranted.

There are no public parks or recreation resources, wild and scenic rivers, nor ecologically sensitive areas in the vicinity of the proposed expansion area. Noise levels from the operation of the plant are not expected to exceed perceptible noise levels at the existing plant. The current and predicted noise levels from the existing and future operations at the nearest off-site receptors are well below health and nuisance based thresholds. Other factors evaluated and determined to not be of significant or relevant consequence included noise, radiation, land-use compatibility, solid or hazardous waste disposal, man-made hazards, natural hazards, residential areas, municipal services and support systems loadings, park and recreation facilities, educational facilities, health services and facilities, roads and transportation systems, and aesthetics.

4.0 OTHER ENVIRONMENTAL ISSUES CONSIDERED BY EPA

4.1 Unavoidable Adverse Effects.

No significant adverse environmental impacts are expected. The project is located on a site that was used as a repository for dredge material in an area that is zoned for industrial development. The primary environmental constraint could be the scarcity of fresh water in the region. QSC has addressed this issue by substituting a once-through cooling water system using sea water instead of the traditional fresh water cooling tower system. At full operating capacity, QSC will generate up to 600 gpm of distilled water for use by a local buyer.

A beneficial impact will result from the employment of over 40 trained high-tech employees, with an expected generation of over three times that number of jobs in support industries. In addition, construction of the facility will require the hiring of over 300 skilled construction workers. This will add to the economic base of the community and help in the diversification of the local economy.

4.2 Irreversible/Irretrievable Commitment of Resources.

Irreversibly and irretrievably committed resources associated with the facility are primarily the materials needed for the construction, and the fossil fuels and energy resources needed to operate the facility.

4.3 Relationship Between Local, Short Term Use of the Environment and the Maintenance/Enhancement of Long Term Beneficial Uses.

The QSC Iron Carbide Plant being constructed at Corpus Christi, Texas, has no past, present or pending environmental actions against the facility. Use of the site is compatible with highest and best use principles. The area is an industrial area and the site is a dredge material disposal area. It has access to deep draw ocean vessels and to roads and railways systems. The intend use industrial use of the site for production of iron carbide will not result in a significant, adverse situation.

5.0 COORDINATION AND CONSULTATION - PARTIES TO WHOM THE ENVIRONMENTAL ASSESSMENT WAS MAILED FOR REVIEW AND COMMENT.

QSC has coordinated with Federal, State and local agencies in the planning of this project. Copies of this Environmental Assessment (EA) has been or will be provided to interested agencies, groups, officials, and individuals for review and comment. Copies of the EA may be obtained by contacting the EPA, Office of Planning and Coordination, 1445 Ross Ave., Dallas, Texas 75202-2733 or telephone 214-665-2258.

U.S. Fish and Wildlife Service
U.S. Army Corps of Engineers, Fort Worth
U.S. Natural Resources Conservation Service
Texas Natural Resource Conservation Commission
Texas Department of Parks and Wildlife
City of Corpus Christi
Nueces County
Texas Historical Commission

APPENDIX A - FIGURES AND TABLES

APPENDIX B - CORRESPONDENCE

REFERENCES

All references are based on the baseline document:

Environmental Information Document dated February 1998, prepared for Qualitech Steel Corporation by Hill Country Environmental, Inc.

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Land and Water Resources of the Corpus Christi Area, Texas (1978).

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