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Appendix 5.2A
Potential for Occurrence and Observed Species

Appendix 5.2A, Table A-1
Special-Status Plants with the Potential for Occurrence
Morton Bay Geothermal Project

Scientific Name	Common Name	Family	ESA/CESA/CNPS[a]	Blooming Period	Habitat Requirements	Occurrence Potential[b]
Astragalus crotalariae	Salton milk-vetch	Fabaceae	None/None/CRPR 4.3	Jan-Apr	Perennial found in Sonoran desert scrub. May occur in saline soils. Known from clay flats, alkali sinks, mud flats, and roadsides.	Low Potential. Suitable saline and alkaline habitat is present in BSA. Historical records of this speicies from 1985 are located within approximately 1 mile of the BSA. This species was not observed during protocol-level botanical surveys.
Astragalus insularis var. harwoodii	Harwood's milk-vetch	Fabaceae	None/None/CRPR 2B.2	Jan-May	Annual found in desert dunes, Mojave desert scrub, in gravel and sandy conditions. Commonly occurs on desert pavement. This species is not tolerant of saline conditions.	Not Expected. No suitable habitat in the BSA.
Astragalus sabulonum	Gravel milk-vetch	Fabaceae	None/None/CRPR 2B.2	Feb-Jun	Annual/Perennial found in desert dunes, Mojave and Sonoran desert scrub in flats, gravelly, sandy, wash conditions. Sometimes roadsides. This species is not known to occur in saline conditions.	Not Expected. No suitable habitat in the BSA.
Calliandra eriophylla	Desert fairy duster	Fabaceae	None/None/CRPR 2B.3	Feb-Mar	Perrenial found in Mojave desert scrub in sandy washes, slopes, and mesas.	Not Expected. No suitable habitat in the BSA.
Cylindropuntia munzii	Munz's cholla	Cactaceae	None/None/CRPR 1B.3	May	Perennial found in Sonoran desert scrub. This species is not tolerant of saline conditions.	Not Expected. No suitable habitat in the BSA.
Ditaxis claryana	Glandular ditaxis	Euphorbiaceae	None/None/CRPR 2B.2	Oct-Mar	Perennial found in Mojave and Sonoran desert scrub on limestone or carbonate substrait.	Not Expected. No suitable habitat in the BSA.
Euphorbia abramsiana	Abrams' spurge	Euphorbiaceae	None/None/CRPR 2B.2	(Aug) Sep-Nov	Annual found in Mojave and Sonoran desert scrub. Known to occur in sandy depressions after summer rainfall. May not tolerate saline soils.	Not Expected. No suitable habitat in the BSA.
Euphorbia arizonica	Arizona spurge	Euphorbiaceae	None/None/CRPR 2B.3	Mar-Apr	Perennial found in sandy Sonoran desert scrub. Known to occur in sandy depressions after summer rainfall. May not tolerate saline soils.	Not Expected. No suitable habitat in the BSA.
Euphorbia platysperma	Flat-seeded spurge	Euphorbiaceae	None/None/CRPR 1B.2	Feb-Sep	Annual found in desert dunes and Sonoran desert scrub. Known to occur in sandy depressions after summer rainfall. May not tolerate saline soils.	Not Expected. No suitable habitat in the BSA.
Herissantia crispa	Curly herissantia	Malvaceae	None/None/CRPR 2B.3	(Apr) Aug-Sep	Annual/perrenial found in Sonoran desert scrub. May occur in disturbed locations such as roadsides.	Not Expected. No suitable habitat in the BSA.
Hymenoxys odorata	Bitter hymenoxys	Asteraceae	None/None/CRPR 2B.1	Feb-Nov	Annual found in riparian scrub and Sonoroan desert scrub.	Not Expected. Riparian habitat in the BSA was along drains and canals and is not suitable habitat for this species. No known records in vicinity. This species was not observed during protocol-level botanical surveys.
Johnstonella costata	Ribbed cryptantha	Boraginaceae	None/None/CRPR 4.3	Feb-May	Annual found in desert dunes, and sandy Mojave and Sonoran desert scrub.	Not Expected. No suitable habitat in the BSA.
Juncus acutus ssp. leopoldii	Southwestern spiny rush	Juncaceae	None/None/CRPR 4.2	(Mar) May-Jun	Perennial found in alkaline seeps and meadows, coastal marshes and swamps, and coastal dunes.	Low Potential. Suitable riparian habitat is present in BSA. No records of this species in the BSA. This species was not observed during protocol-level botanical surveys.

Appendix 5.2A, Table A-1
Special-Status Plants with the Potential for Occurrence
Morton Bay Geothermal Project

Scientific Name	Common Name	Family	ESA/CESA/CNPS[a]	Blooming Period	Habitat Requirements	Occurrence Potential[b]
Juncus cooperi	Cooper's rush	Juncaceae	None/None/CRPR 4.3	Apr-May (Aug)	Perennial found in saline meadows and seeps.	Low Potential. Suitable saline meadow habitat present in BSA. No records of this species in the BSA. This species was not observed during protocol-level botanical surveys.
Lycium torreyi	Torrey's box-thorn	Solanaceae	None/None/CRPR 4.2	(Jan-Feb) Mar-Jun (Sep-Nov)	Perennial shrub found in Mojave and Sonoran desert scrub.	Not Expected. No suitable habitat in the BSA.
Mirabilis tenuiloba	Slender-lobed four o'clock	Nyctaginaceae	None/None/CRPR 4.3	(Feb) Mar-May	Perennial found in Sonoran desert scrub.	Not Expected. No suitable habitat in the BSA.
Panicum hirticaule ssp. hirticaule	Roughstalk witch grass	Poaceae	None/None/CRPR 2B.1	Aug-Dec	Annual found in sandy, silty depressions in desert dunes, Mojave and Sonoran desert scrub, and Joshua tree woodlands.	Not Expected. No suitable habitat in the BSA.
Pilostyles thurberi	Thurber's pilostyles	Apodanthaceae	None/None/CRPR 4.3	Dec-Apr	Parasitic perennial found most commonly on host plant Emory's indigo bush (*Psorothamnus emoryi*). Emory's indigo bush may occur on sandy beaches, but this species is not tolerant of saline soils.	Not Expected. No suitable habitat in the BSA.
Salvia greatae	Orocopia sage	Lamiaceae	None/None/CRPR 1B.3	Mar-Apr	Perennial shrub found in Mojave and Sonoran desert scrub. Not known to occur in saline habitats.	Not Expected. No suitable habitat in the BSA.
Teucrium cubense ssp. depressum	Dwarf germander	Lamiaceae	None/None/CRPR 2B.2	Mar-May (Sep-Nov)	Annual found in desert dunes, playa margins, and Sonoran desert scrub.	Not Expected. No suitable habitat in the BSA.

Notes:
[a] Status Definitions:
CESA = California Endangered Species Act
ESA = Federal Endangered Species Act
CNPS = California Native Plant Act
CRPR = California Rare Plant Rank
1A = Presumed extinct from California
1B = Rare, threatened, or endangered in California and elsewhere
2A = Extirpated in California, common elsewhere
2B = Rare, threatened, or endangered in California, but more common elsewhere
4 = Plants of Limited Distribution – A Watch List
Threat ranks:
0.1 = Seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat)
0.2 = Moderately threatened in California (20–80% occurrences threatened / moderate degree and immediacy of threat)
0.3 = Not very threatened in California (less than 20% of occurrences threatened / low degree and immediacy of threat or no current threats known)
b Potential for Occurrence definitions are provided in the body text (Section 5.2.1.5.1)

Appendix 5.2A, Table A-2
Special-Status Wildlife with the Potential for Occurrence
Morton Bay Geothermal Project

Common Name	Scientific Name	CESA/ESA	CDFW Status[a]	Other Status[b]	Habitat Requirements	Potential for Occurrence[c]
Invertebrates						
Monarch butterfly	*Danaus plexippus plexippus*	None/FC	None	None	Migratory invertebrate. Monarchs in the southwest live in canyons or riparian areas. They lay their eggs on milkweed (Asclepias spp.), which caterpillars feed exclusively on. The adults will nectar on many other species besides milkweed.	Not Expected. No milkweed observed during botanical surveys of the BSA.
Fish						
Desert pupfish	*Cyprinodon macularius*	SE/FE	None	None	Desert ponds, springs, marshes and streams in Southern California.	Not Expected. No suitable habitat for this species in the BSA. This species is known to occur in the vicintiy, but the project will not impact any water ways.
Razorback sucker	*Xyrauchen texanus*	SE/FE	FP	None	Found in the Colorado river bordering California.	Not Expected. No suitable habitat for this species in the BSA.
Amphibians and Reptiles						
Couch's spadefoot	*Scaphiopus couchii*	None	SSC	None	Temporary desert rain pools that last at least 7 days, within water temps > 15C, and subterranean refuge sites close by.	Not Expected. No suitable habitat for this species in the BSA.
Flat-tailed horned lizard	*Phrynosoma mcallii*	None	SSC	None	Restricted to desert washes and desert flats in central riverside, eastern San Diego, and Imperial counties.	Not Expected. No suitable habitat for this species in the BSA.
Lowland leopard frog	*Lithobates yavapaiensis*	None	SSC	None	Were found along the Colorado river and in streams near the Salton sea.	Not Expected. No suitable habitat for this species in the BSA.
Mojave Desert tortoise	*Gopherus agassizii*	ST[d]/FT	None	None	Most commonly inhabits desert scrub, desert wash and Joshua tree habitats. The desert tortoise requires friable soil for burrow and nest construction and prefers creosote bush habitat and areas with wildflower blooms.	Not Expected. No suitable habitat for this species in the BSA.
Sonoran Desert toad	*Incilius alvarius*	None	SSC	None	Breeds in temporary pools and irrigation ditches along the Colorado River and Southern Imperial Valley.	Not Expected. One historical CNDDB occurrence from 1916, possibly extripated. The project will not impact any water ways.
Birds						
Black skimmer	*Rynchops niger*	None	SSC	USFWS - BCC	Nest on gravel, bars, low islets, and sandy beaches. CDFW SSC status for nesting only.	Not Expected. No suitable nesting habitat in BSA. This species is known from Refuge and historical CNDDB occurrence from 1998.
Black-tailed gnatcatcher	*Polioptila melanura*	None	WL	None	Primarily inhabits wooded desert wash habitats; also occurs in desert scrub habitat, especially in winter.	Not Expected. No suitable habitat in the BSA. Historical CNDDB occurrences from 1968 and before. This species is uncommon to fairly common in the Refuge.
Burrowing owl	*Athene cunicularia*	None	SSC	USFWS - BCC	Inhabits open, dry annual or perennial grasslands, desert and scrublands characterized by low growing vegetation.	Present: Suitable habitat, sign, and live owls were obserevd within the BSA during the March 2022 surveys. CNDDB occurrences of this species in the BSA.
California black rail	*Laterallus jamaicensis coturniculus*	ST/None	FP	USFWS - BCC	Inhabits freshwater marshes, wet meadows, and shallow margins of saltwater marshes bordering larger bays.	Not Expected. Protocol-level rail surveys conducted in 2022 in BSA did not detect any California black rail.
California brown pelican	*Pelecanus occidentalis californicus*	Delisted/Delisted	FP	None	Colonial nester on coastal islands just outside the surf line. Known to nest on Obsidian Butte and at mouth of Alamo River.	High potential: The BSA has no potential nesting or foraging for this species, but because of proximity to a known nesting colony on Obsidian Butte and Alamo River delta, this species would be expected to fly over the BSA. Forages on open water of Salton Sea. CNDDB records of this species in BSA vicinity. This species was not observed during biological surveys of the BSA.

Appendix 5.2A, Table A-2
Special-Status Wildlife with the Potential for Occurrence
Morton Bay Geothermal Project

Common Name	Scientific Name	CESA/ESA	CDFW Status[a]	Other Status[b]	Habitat Requirements	Potential for Occurrence[c]
California gull	*Larus californicus*	None	WL	USFWS - BCC	Littoral waters, sandy beaches, waters and shorelines of bays, tidal mud-flats, marshes, and lakes. CDFW WL status only for nesting.	Present. Species was incidentally observed during surveys within the BSA. Moderately suitable nesting habitat and foraging habitat within the BSA. Historical CNDDB occurrence from 1999 and before. This species is common to abundant in the Refuge year-round.
Cooper's hawk	*Accipiter cooperii*	None	WL	None	Nest sites mainly in woodland, riparian growths of deciduous trees. CDFW WL for nesting only.	Present. Species was incidentally observed during surveys within the BSA. Moderately suitable nesting habitat and foraging habitat within the BSA. No documented occurrences in CNDDB. This species is reported as uncommon in the Refuge.
Crissal thrasher	*Toxostoma crissale*	None	SSC	None	Resident of southeastern deserts in desert riparian and desert wash habitats	Not Expected. Historical CNDDB records from 1940-1960s of this species in BSA vicinity. This species is rare to very uncommon in the Refuge. No suitable riparian habitat in the BSA.
Gila woodpecker	*Melanerpes uropygialis*	SE/None	None	USFWS - BCC	In California, inhabits cottonwoods and other desert riparian trees, shade trees and date palms.	Not Expected. Historical CNDDB occurrences of this species from 1940-1950's. This species uncommon to fairly common in the Refuge. No suitable riparian habitat in the BSA.
Gray-headed junco	*Junco hyemalis caniceps*	None	WL	None	Summer resident of Clark Mountain (Eastern San Bernardino county) and Grapevine mountains (Inyo county). Nesting only.	Not Expected. Historical CNDDB occurrence from 1957. This species is rare to very uncommon in the Refuge.
Gull-billed tern	*Gelochelidon nilotica*	None	SSC	USFWS - BCC	Only known breeding colonies at San Diego bay and the Salton Sea. CDFW SSC status is for nesting only.	Not Expected. No suitable nesting habitat in the BSA. This species is known from the Refuge but only historical CNDDB occurrences from 1998 are present in BSA vicinity.
Le Conte's thrasher	*Toxostoma lecontei*	None	SSC	USFWS - BCC	Inhabits open desert wash, desert scrub, alkali desert scrub and desert succulent scrub habitat. This species commonly nests in dense, spiny shrub or densely branched cactus in desert wash habitat.	Not Expected. No suitable nesting habitat in BSA. CNDDB occurrence from 2009 in Refuge, but Refuge lists this species as extripated breeding habitat.
Least bittern	*Ixobrychus exilis*	None	SSC	None	This secretive species breeds in marshes, including at the Salton Sink. Least bitterns build nests on platforms of emergent vegetation above water on cattails and bulrush species.	Present. Species was incidentally observed during rail surveys. Moderately suitable nesting habitat and foraging habitat within the BSA. No documented occurrences in CNDDB. This species is uncommon in the Refuge.
Loggerhead shrike	*Lanius ludovicianus*	None	SSC	None	Broken woodlands, savannah, pinyon-juniper, Joshua tree, and riparian woodlands, desert oases, scrub, and washes.	Low Potential. No suitable nesting habitat in BSA. CNDDB occurrence from 2007. The Refuge lists this species as occasional.
Long-billed Curlew	*Numenius americanus*	None	WL	None	Inhibits Great Basin grassland, meadow and seeps. Favors gravelly soils and gently rolling terrain, and agriculture. Breeds in upland shortgrass prairies and wet meadows. Winters in Imperial County. CDFW WL for nesting only.	Present. Species was incidentally observed during surveys; however, no suitable nesting habitat is present within the BSA. This species has potential to forage in the BSA. No documented occurrences in CNDDB. Excluding the summer, common to abundant at the Refuge.
Merlin	*Falco columbarius*	None	WL	None	Seacoast, tidal estuaries, open woodlands, savannahs, edges of grasslands and deserts, farms, and ranches. Clumps of trees or windbreaks are required for roosting in open country.	Not Expected. No potentially suitable nesting habitat in BSA. CNDDB occurrences in desert scrub east of the BSA. Rare to very uncommonly present in Refuge.
Mountain plover	*Charadrius montanus*	None	SSC	USFWS - BCC	Inhabits Great Basin grassland and scrub, Mojavean desert scrub, and Sonoran desert scrub. Breeding sites located on cliffs. Forages far afield, even to marshlands and ocean shores. This species is known to overwinter and forage in agricultural lands in Imperial Valley.	Low Potential. No suitable breeding habitat in the BSA, but this species is known to forage and overwinter in agricultural lands. Numerous CNDDB occurrences in BSA vicinity. This species is uncommon to farily common in the Refuge. This species was not observed during biological surveys of the BSA.

Appendix 5.2A, Table A-2
Special-Status Wildlife with the Potential for Occurrence
Morton Bay Geothermal Project

Common Name	Scientific Name	CESA/ESA	CDFW Status[a]	Other Status[b]	Habitat Requirements	Potential for Occurrence[c]
Short-eared owl	*Asio flammeus*	None	SSC	USFWS - BCC	Found in swamp lands, both fresh and salt lowland meadows, irrigated alfalfa fields. CDFW SSC status for nesting only.	Low Potential. No suitable nesting habitat in the BSA. Historical CNDDB occurrence of this species from 1956. This species is rare to occassionally observed in the Refuge.
Southwestern willow flycatcher	*Empidonax traillii extimus*	SE/FE	None	None	Inhabits riparian woodlands in southern California.	Not Expected. No suitable habitat in BSA. One CNDDB occurrence in vicinity from 2007, and not reported from occurring in the Refuge.
Western Snowy Plover	*Charadrius alexandrinus nivosus*	None/FT	SSC	None	Inhabits Great Basin standing waters, sandy shore, and wetland habitats. Needs sandy, gravelly, or friable soils for nesting.	Not Expected. No suitable nesting habitat in BSA. One historical CNDDB occurrence of this species from 1999. This species is uncommon to fairly common in the Refuge.
White-faced Ibis	*Plegadis chihi*	None	WL	None	Forages in fresh emergent wetland, wet meadows, and flooded/irrigated pastures and croplands. Nests in dense fresh emergent wetland. CDFW WL for nesting only.	Present. Species was incidentally observed during surveys. Moderately suitable nesting habitat and foraging habitat within the BSA. Historical CNDDB occurrence from 1980. This species is common to abundant in the Refuge.
Yellow warbler	*Setophaga petechia*	None	SSC	USFWS - BCC	Riparian plant associations in close proximity to water. Also nests in montane shrubbery in open conifer forests in cascades and Sierra Nevada. CDFW SSC status for nesting only.	Moderate Potential. Suitable riparian nesting habitat in the BSA. Historical CNDDB occurrences of this species from the 1952. This species is common to occassionally known in the Refuge. This species was not observed during biological surveys of the BSA.
Yellow-breasted chat	*Icteria virens*	None	SSC	None	Summer resident inhabits riparian thickets of willow and salt cedar near watercourses. CDFW SSC status for nesting only.	Not Expected. No suitable riparian habitat in the BSA. Historical CNDDB occurrences of this species from the 1960s. This species is rare to very uncommon in the Refuge.
Yuma Ridgway's rail	*Rallus obsoletus yumanensis*	ST/FE	FP	None	Nests in freshwater marshes along the Colorado river and along the south and east ends of the Salton sea.	Present. Protocol-level surveys confirmed presence of this species within the BSA.

Appendix 5.2A, Table A-2
Special-Status Wildlife with the Potential for Occurrence
Morton Bay Geothermal Project

Common Name	Scientific Name	CESA/ESA	CDFW Status[a]	Other Status[b]	Habitat Requirements	Potential for Occurrence[c]
Mammals						
American badger	*Taxidea taxus*	None	SSC	Fur bearing mammal	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils in uncultivated land.	Low Potential. Historical CNDDB occurrences of this species from 1937. This species is known to occur on the Refuge. The BSA provides low quality suitable habitat. This species was not observed during biological surveys of the BSA.
Big free-tailed bat	*Nyctinomops macrotis*	None	SSC	None	Roosts in cliffs, rock crevices and some documentation of in buildings, caves, and tree cavities. This species prefers rocky and arid habitats including desert shrub, woodlands, evergreen forests, and riparian.	Low Potential. No CNDDB records of this species in vicinity, but this species is known to occur on the Refuge. No suitable roosting habitat other than low quality buildings. This species may forage on agricultural lands in BSA and vicinity. This species was not observed during biological surveys of the BSA.
Desert bighorn sheep	*Ovis canadensis nelsoni*	None	FP	None	Widely distributed from the White Mountains in Mono County to the Chocolate Mountains in Imperial County.	Not Expected. Historical CNDDB occurrence from 1986 near Chocolate Mountains. No suitable habitat in the BSA.
Desert kit fox	*Vulpes macrotis arsipus*	None	None	Fur bearing mammal	Inhabits open desert, shrubby, or shrub-grass habitat. This nocturnal species forages at night and typically resides in a den or burrow during the day.	Low Potential. No CNDDB records of this species in vicinity, but this species is known to occur on the Refuge. This species was not observed during biological surveys of the BSA.
California leaf-nosed bat	*Macrotis californicus*	None	SSC	None	Roost in caves, mines and buildings. Utilizes desert riparian habitat.	Low Potential. No CNDDB records of this species in vicinity, but this species is known to occur on the Refuge. No suitable roosting habitat other than low quality buildings. This species may forage on agricultural lands in BSA and vicinity. This species was not observed during biological surveys of the BSA.
Mexican long-tongued bat	*Choeronycteris maxicana*	None	SSC	None	Roosts in caves, mines, rock crevices, and abandoned buildings. Known to use thorn scrub, Palo Verde-saguaro desert, semi-desert grassland, oak woodland, tropical deciduous forests, and riparian vegetation.	Low Potential. No CNDDB records of this species in vicinity, but this species is known to occur on the Refuge. No suitable roosting habitat other than low quality buildings. This species may forage on agricultural lands in BSA and vicinity. This species was not observed during biological surveys of the BSA.
Pallid bat	*Antrozous pallidus*	None	SSC	None	Inhabits rocky canyons, open farmland, scattered desert scrub, grassland, shrubland, woodland, and mixed conifer forest.	Low Potential. Historical CNDDB occurrences of this species from 1994. This species is known to occur on the Refuge. No suitable roosting habitat. This species may forage on agricultural lands in BSA and vicinity. This species was not observed during biological surveys of the BSA.
Pocketed free-tailed bat	*Nyctinomops femorosaccus*	None	SSC	None	Variety of arid areas in southern California; pine juniper woodlands, desert scrub, palm oasis, desert wash, desert riparian, etc.	Low Potential. Historical CNDDB occurrences of this species from 1994. This species is known to occur on the Refuge. No suitable roosting habitat. This species may forage on agricultural lands in BSA and vicinity. This species was not observed during biological surveys of the BSA.
Spotted bat	*Euderma maculatum*	None	SSC	None	Roosts in prominent rock features. Desert desert-scrub, pinyon-juniper woodland, ponderosa pine, mixed conifer forest, canyon bottoms, rims of cliffs, riparian areas, fields, and open pasture.	Low Potential. No CNDDB records of this species in vicinity, but this species is known to occur on the Refuge. No suitable roosting habitat other than low quality buildings. This species may forage on agricultural lands in BSA and vicinity. This species was not observed during biological surveys of the BSA.
Western mastiff bat	*Eumops perotis californicus*	None	SSC	None	Many open, semi-arid to arid habitats, including conifer and deciduous woodlands, coastal scrub, grasslands, chaparral, etc. Roosts in crevices in cliff faces, high buildings, trees, and tunnels.	Low Potential. Historical CNDDB occurrences of this species from 1994. No suitable roosting habitat. This species may forage on agricultural lands in BSA and vicinity. This species was not observed during biological surveys of the BSA.

Appendix 5.2A, Table A-2
Special-Status Wildlife with the Potential for Occurrence
Morton Bay Geothermal Project

Common Name	Scientific Name	CESA/ESA	CDFW Status[a]	Other Status[b]	Habitat Requirements	Potential for Occurrence[c]
Western yellow bat	*Lasiurus xanthinus*	None	SSC	None	Found in valley foothill riparian, desert riparian, desert wash and palm oasis habitats.	Low Potential. Historical CNDDB occurrences of this species from 1994. This species is known to occur on the Refuge. No suitable roosting habitat. This species may forage on agricultural lands in BSA and vicinity. This species was not observed during biological surveys of the BSA.
Yuma hispid cotton rat	*Sigmodon hispidus eremicus*	None	SSC	None	Along the Colorado river and in grass and agricultural areas near irrigation waters. Refuge literature indicates this species is relatively common in agricultural fields and moist habitats.	Moderate Potential. Moderate quality suitable habitat is present in the marsh, riparian, and agricultural lands in BSA. CNDDB occurrence of this species from 2008 in 1 mile buffer. This species is common in the Refuge. This species was not observed during biological surveys of the BSA.

Notes:
Caspian tern were included in CNDDB query but were not included in this analysis because their only special-status listing is International Union for Conservation of Nature least concern.
[a] CDFW Status
[b] Other Status
CESA = California Endangered Species Act
CDFW = California Department of Fish and Wildlife
ESA = Federal Endangered Species Act
FC = Federal Candidate for listing
FE = Federally Endangered
FT = Federally Threatened
FP = Fully Protected
SE = State Endangered
ST = State Threatened
SSC = Species of Special Concern
USFWS BCC = United State Fish and Wildlife Service Bird of Conservation Concern
c Potential for Occurrence definitions are provided in the body text (Section 5.2.1.5)
d Desert tortoise are listed as CESA threatened. As of October 19, 2020, California Fish and Game Commission listed this species as candidate species for consideration as CESA endangered (2020).

Appendix 5.2A, Table A-3
Observed Plant Species
Morton Bay Geothermal Project

Family	Species Name	Common Name	Cal-IPC/CDFA/CCR 4500 Noxious Weed
Aizoaceae	*Sesuvium verrucosum*	Western sea-purslane	
Amaranthaceae	*Allenrolfea occidentalis*	Iodine bush	
Amaranthaceae	*Atriplex lentiformis*	Big saltbush	
Amaranthaceae	*Atriplex lindleyi*	Lindley's saltbush	
Amaranthaceae	*Chenopodium murale*	Nettle lead goosefoot	
Amaranthaceae	*Salsola tragus*	Russian thistle	Cal-IPC Limited/CDFA C/Yes
Amaranthaceae	*Suaeda nigra*	Bush seepweed	
Asteraceae	*Chloracantha spinosa*	Spiny Chloracantha	
Asteraceae	*Helianthus annuus*	Common sunflower	
Asteraceae	*Lactuca serriola*	Prickly lettuce	
Asteraceae	*Pluchea sericea*	Arrow-weed	
Asteraceae	*Senecio vulgaris*	Common groundsel	
Asteraceae	*Sonchus oleraceus*	Common sow thistle	
Asteraceae	*Xanthium strumarium*	Cocklebur	
Boraginaceae	*Heliotropium curassavicum*	Seaside heliotrope, Alkali heliotrope	
Brassicaceae	*Sisymbrium irio*	London rocket	Cal-IPC Limited/None/None
Caryophyllaceae	*Spergularia marina*	Saltmarsh sand-spurrey	
Convolvulaceae	*Cressa truxillensis*	Alkali weed	
Cyperaceae	*Scirpus sp.*	Sedge species	
Cyperaceae	*Bolboschoenus maritimus ssp. Paludosus*	Alkali bulrush	
Fabaceae	*Medicago sativa*	Alfalfa (cultivated)	
Fabaceae	*Melilotus albus*	White sweetclover	
Malvaceae	*Malva parviflora*	Cheeseweed, little mallow	
Malvaceae	*Malvella leprosa*	Alkali-mallow	
Poaceae	*Arundo donax*	Giant reed	Cal-IPC High/None/Yes
Poaceae	*Cynodon dactylon*	Bermuda grass	Cal-IPC Moderate/None/None
Poaceae	*Distichlis spicata*	Salt grass	
Poaceae	*Leptochloa fusca*	Sprangletop	
Poaceae	*Phalaris minor*	Little-seeded canary grass	
Poaceae	*Polypogon monspeliensis*	Rabbitfoot grass	Cal-IPC Limited/None/None
Poaceae	*Triticum aestivum*	Wheat (cultivated)	
Polygonaceae	*Persicaria hydropiperoides*	False waterpepper	
Polygonaceae	*Rumex fueginus*	Golden dock	
Polygonaceae	*Rumex obtusifolius*	Bitter dock	
Tamaricaceae	*Tamarix sp.*	Salt cedar	Cal-IPC High/None/Yes
Typhaceae	*Typha domingensis*	Southern cattail	

Appendix 5.2A, Table A-4
Observed Wildlife Species
Morton Bay Geothermal Project

Species Category	Common Name	Species Name
Reptiles	Marcy's checkered garter snake	*Thamnophis marcianus marcianus*
	Side-blotched lizard	*Uta stansburiana*
Birds	American avocet	*Recurvirostra americana*
	American coot	*Fulica americana*
	American kestrel	*Falco sparverius*
	Barn swallow	*Hirundo rustica*
	Black-crowned night heron	*Nycticorax nycticorac*
	Black phoebe	*Sayornis nigricans*
	Black-necked stilt	*Himantopus mexicanus*
	Black-throated sparrow	*Amphispiza bilineata*
	Burrowing owl *	*Athene cunicularia*
	California gull *	*Larus californicus*
	California quail	*Callipepla californica*
	Cattle egret	*Bubulcus ibis*
	Common gallinule	*Gallinula galeata*
	Common raven	*Corvus corax*
	Cooper's hawk *	*Accipiter cooperi*
	Costa's hummingbird	*Calypte costae*
	Double-crested cormorant	*Phalacrocorax auratus*
	European starling	*Sturnus vulgaris*
	Great blue heron	*Ardea herodias*
	Great egret	*Casmerodius albus*
	Greater roadrunner	*Geococcyx californianus*
	Great-tailed grackle	*Quiscalus mexicanus*
	Ground dove	*Columbina passerine*
	Inca dove	*Columbina inca*
	Killdeer	*Charadrius vociferus*
	Least bittern *	*Ixobychus exilis*
	Long-billed curlew *	*Numenius americanus*
	Mallard	*Anas platyrhynochos*
	Marsh wren	*Cistothorus palustris*
	Mourning dove	*Zenaida macroura*
	Northern harrier	*Circus cyaneus*
	Northern shoveler	*Spatula clypeata*
	Pied-billed grebe	*Podilymbus podiceps*
	Red-tailed hawk	*Buteo jamaicensis*
	Red-winged blackbird	*Agelaius phoeniceus*
	Ring-billed gull	*Larus delawarensis*
	Rock pigeon	*Columba livia*
	Rough-winged swallow	*Stelgidopteryx serripennis*
	Ruddy duck	*Oxyura jamaicensis*
	Sandhill crane	*Grus canadensis*
	Snowy egret	*Egretta thula*
	Snowy plover	*Charadrius nivosus*
	Turkey vulture	*Cathartes aura*
	Virginia rail	*Rallus limicola*
	Western meadowlark	*Sturnella neglecta*
	White pelican	*Pelecanus erythrorhynchos*
	White-faced ibis *	*Plegadis chihi*
	Yellow-rumped warbler	*Setophaga coronata*
Mammals	Bobcat	*Lynx rufus*
	Botta's pocket gopher	*Thomomys bottae*
	Coyote	*Canis latrans*
	Racoon	*Procyon lotor*
	Desert Cottontail	*Sylvilagus audubonii*

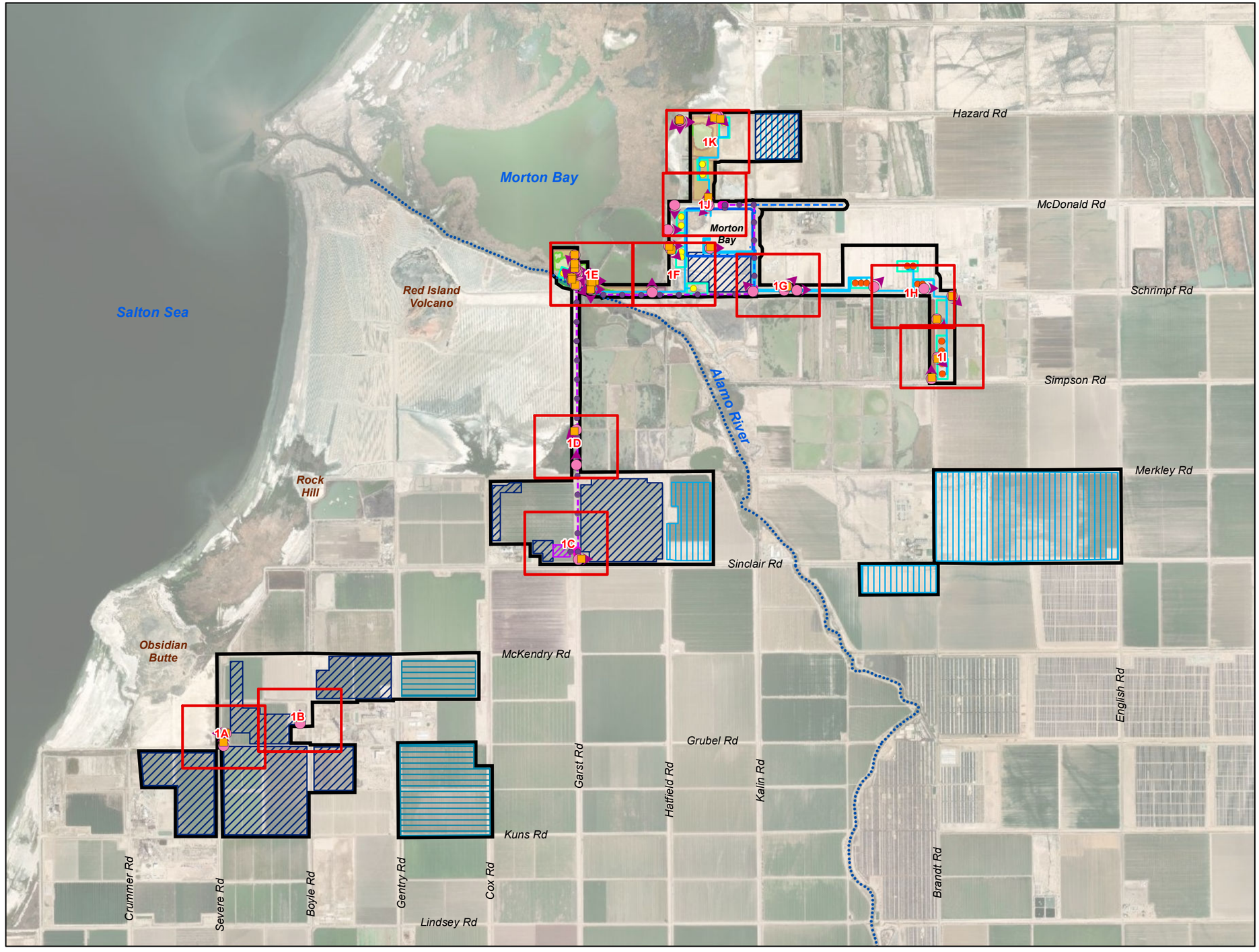
* This is a special-status wildlife species with more information provided in Appendix 5.2A.

Appendix 5.2B
CNDDB Figures - Confidential

This Appendix is filed under a request for confidential designation

Appendix 5.2 B, Confidential Figures have been provided under a request for confidentiality.

Appendix 5.2C
Aquatic Resource Delineation Documentation



Legend

- Aquatic Resources Study Area (1,893.9 acres)
- Sample Point
- Photo Point

Aquatic Resources

- Wetland (18.145 ac)
- Other Waters (39.237 ac)

Other Watercourses and Regulated Habitat

- Watercourse (1.416 ac; 1,589 lf)
- Riparian Habitat (3.433 ac)

Proposed Project Features

- Plant
- Well Pad
- Injection Well
- Production Well
- Pipeline
- Water Supply Pipeline
- Gen-Tie Line Pole
- Gen-Tie Line
- Pull Site
- Switching Station
- Borrow Pit
- Construction Camp
- Construction Laydown and Parking Areas

N

0 0.25 0.5 1
Miles

Appendix 5.2C Figure 1 Overview
Aquatic Resource Delineation Results
Morton Bay Geothermal Project
Imperial County, California

Jacobs

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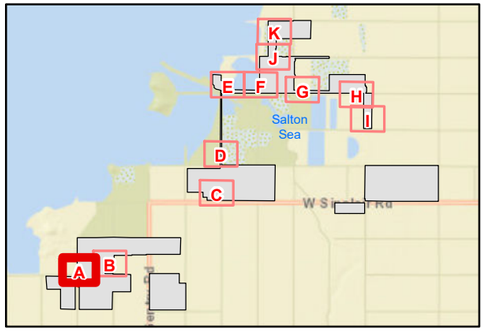

Legend

- Aquatic Resources Study Area (1,893.9 acres)
- Sample Point
- Photo Point

Aquatic Resources

- Wetland (18.145 ac)
- Other Waters (39.237 ac)

Other Watercourses and Regulated Habitat

- Watercourse (1.416 ac; 1,589 lf)
- Riparian Habitat (3.433 ac)

Proposed Project Features

- Plant
- Well Pad
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- Production Well
- Pipeline
- Water Supply Pipeline
- Gen-Tie Line Pole
- Gen-Tie Line
- Pull Site
- Switching Station
- Borrow Pit
- Construction Camp
- Construction Laydown and Parking Areas

Notes:
ac = acre
lf = linear feet

N

0 100 200 400
Feet

Appendix 5.2C Figure 1A
Aquatic Resource Delineation Results
Morton Bay Geothermal Project
Imperial County, California

Jacobs

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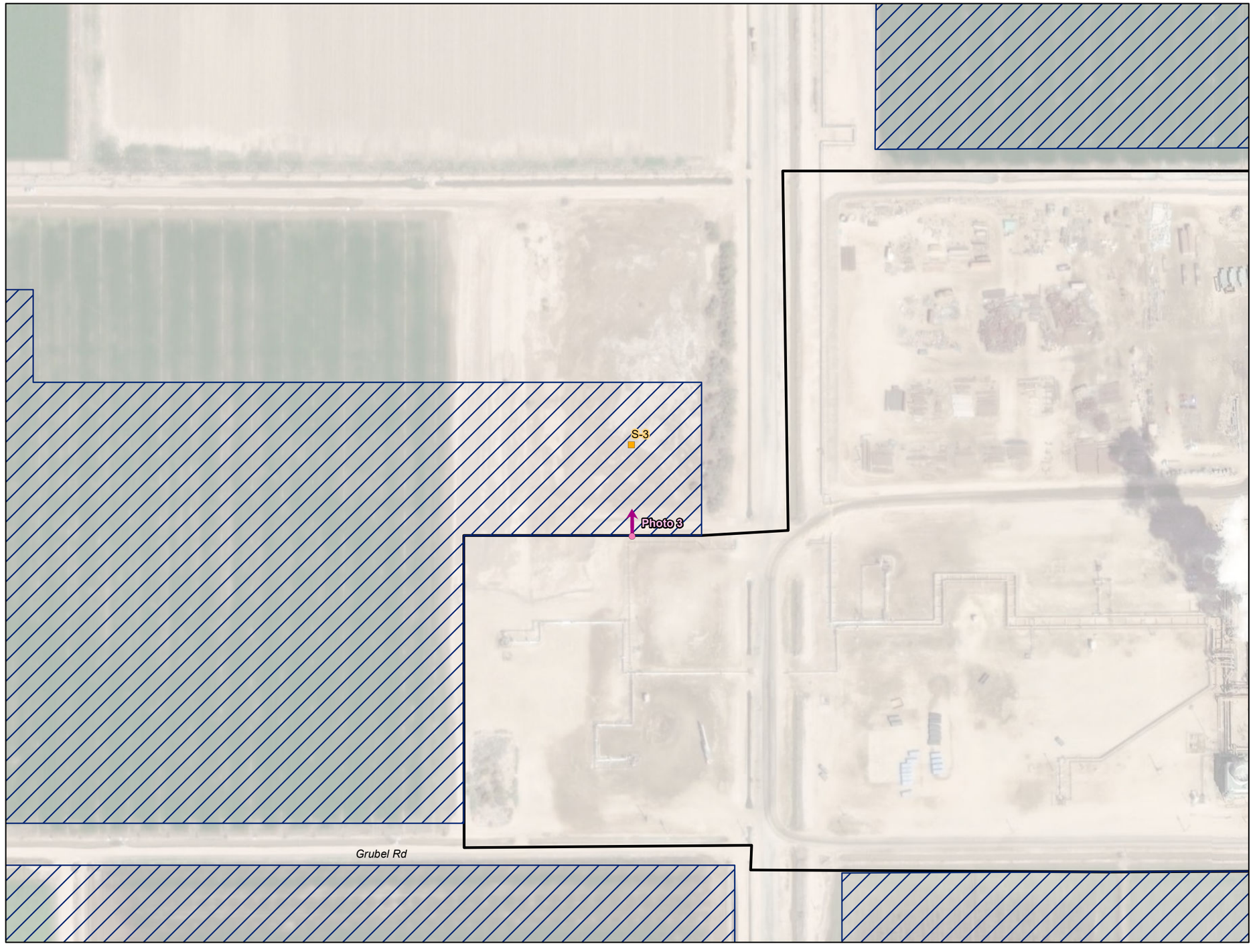

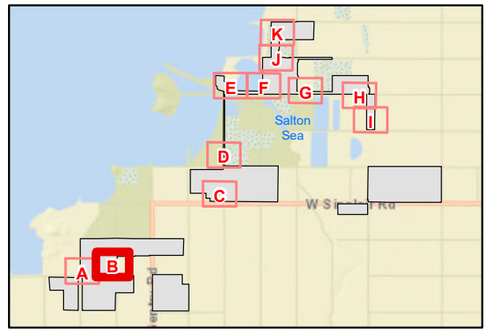

Legend

- Aquatic Resources Study Area (1,893.9 acres)
- Sample Point
- Photo Point

Aquatic Resources

- Wetland (18.145 ac)
- Other Waters (39.237 ac)

Other Watercourses and Regulated Habitat

- Watercourse (1.416 ac; 1,589 lf)
- Riparian Habitat (3.433 ac)

Proposed Project Features

- Plant
- Well Pad
- Injection Well
- Production Well
- Pipeline
- Water Supply Pipeline
- Gen-Tie Line Pole
- Gen-Tie Line
- Pull Site
- Switching Station
- Borrow Pit
- Construction Camp
- Construction Laydown and Parking Areas

Notes:
ac = acre
lf = linear feet

N

0 100 200 400
Feet

Appendix 5.2C Figure 1B
Aquatic Resource Delineation Results
Morton Bay Geothermal Project
Imperial County, California

Jacobs

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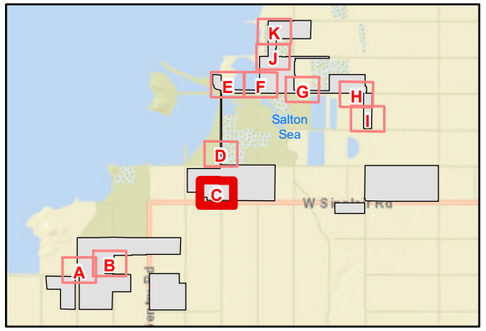

Legend

- Aquatic Resources Study Area (1,893.9 acres)
- Sample Point
- Photo Point

Aquatic Resources

- Wetland (18.145 ac)
- Other Waters (39.237 ac)

Other Watercourses and Regulated Habitat

- Watercourse (1.416 ac; 1,589 lf)
- Riparian Habitat (3.433 ac)

Proposed Project Features

- Plant
- Well Pad
- Injection Well
- Production Well
- Pipeline
- Water Supply Pipeline
- Gen-Tie Line Pole
- Gen-Tie Line
- Pull Site
- Switching Station
- Borrow Pit
- Construction Camp
- Construction Laydown and Parking Areas

Notes:
ac = acre
lf = linear feet

N

0 100 200 400
Feet

Appendix 5.2C Figure 1C
Aquatic Resource Delineation Results
Morton Bay Geothermal Project
Imperial County, California

Jacobs

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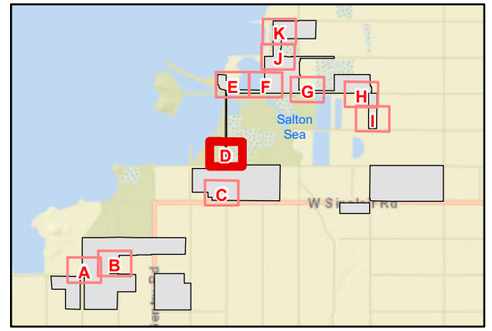

Legend

- Aquatic Resources Study Area (1,893.9 acres)
- Sample Point
- Photo Point

Aquatic Resources

- Wetland (18.145 ac)
- Other Waters (39.237 ac)

Other Watercourses and Regulated Habitat

- Watercourse (1.416 ac; 1,589 lf)
- Riparian Habitat (3.433 ac)

Proposed Project Features

- Plant
- Well Pad
- Injection Well
- Production Well
- Pipeline
- Water Supply Pipeline
- Gen-Tie Line Pole
- Gen-Tie Line
- Pull Site
- Switching Station
- Borrow Pit
- Construction Camp
- Construction Laydown and Parking Areas

Notes:
ac = acre
lf = linear feet

N

0 100 200 400
Feet

Appendix 5.2C Figure 1D
Aquatic Resource Delineation Results
Morton Bay Geothermal Project
Imperial County, California

Jacobs

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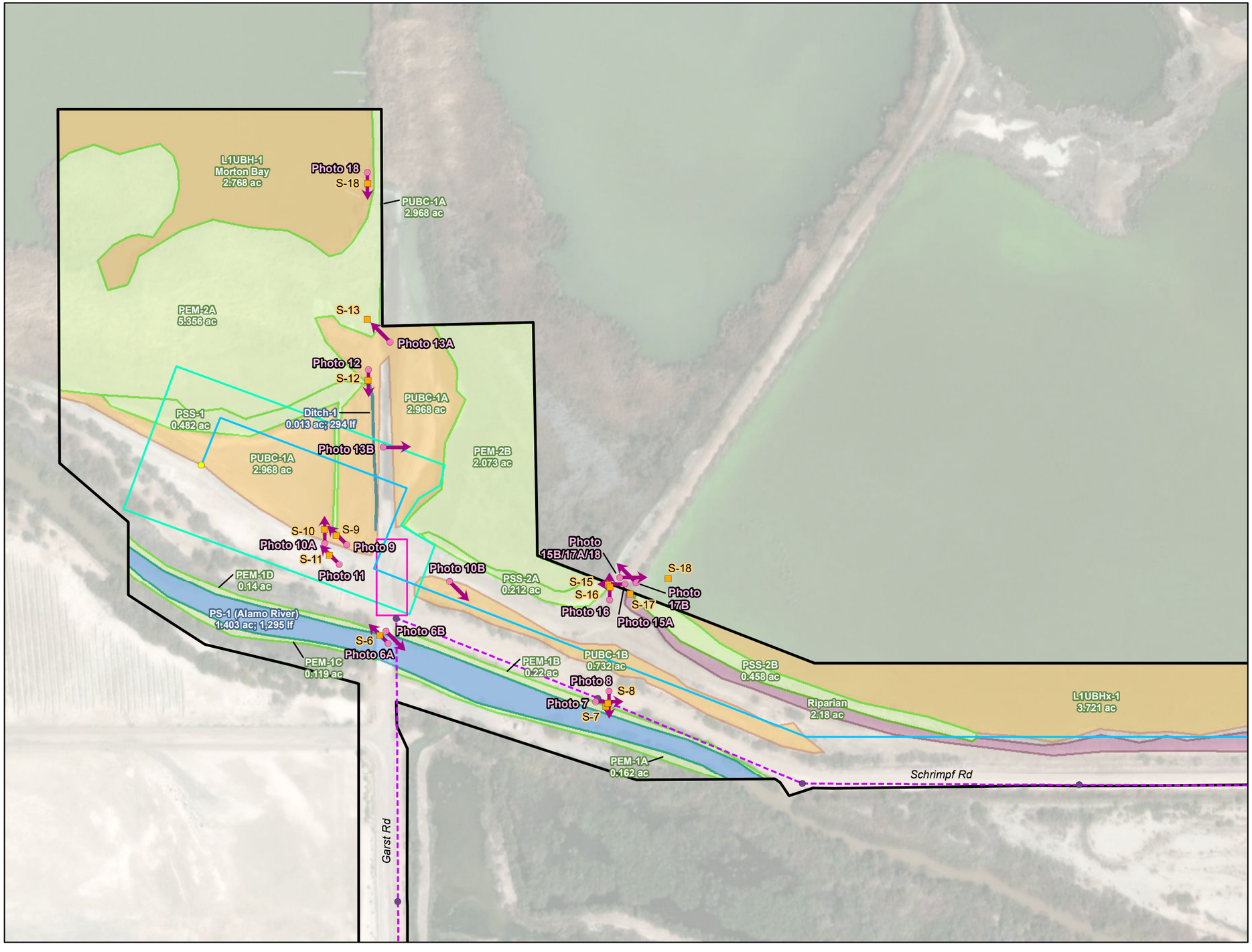

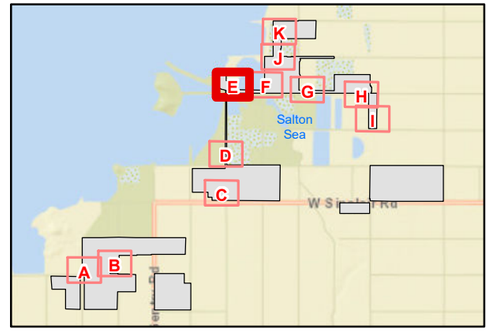

Legend

- Aquatic Resources Study Area (1,893.9 acres)
- Sample Point
- Photo Point

Aquatic Resources

- Wetland (18.145 ac)
- Other Waters (39.237 ac)

Other Watercourses and Regulated Habitat

- Watercourse (1.416 ac; 1,589 lf)
- Riparian Habitat (3.433 ac)

Proposed Project Features

- Plant
- Well Pad
- Injection Well
- Production Well
- Pipeline
- Water Supply Pipeline
- Gen-Tie Line Pole
- Gen-Tie Line
- Pull Site
- Switching Station
- Borrow Pit
- Construction Camp
- Construction Laydown and Parking Areas

Notes:
ac = acre
lf = linear feet

N

0 100 200 400
Feet

Appendix 5.2C Figure 1E
Aquatic Resource Delineation Results
Morton Bay Geothermal Project
Imperial County, California

Jacobs

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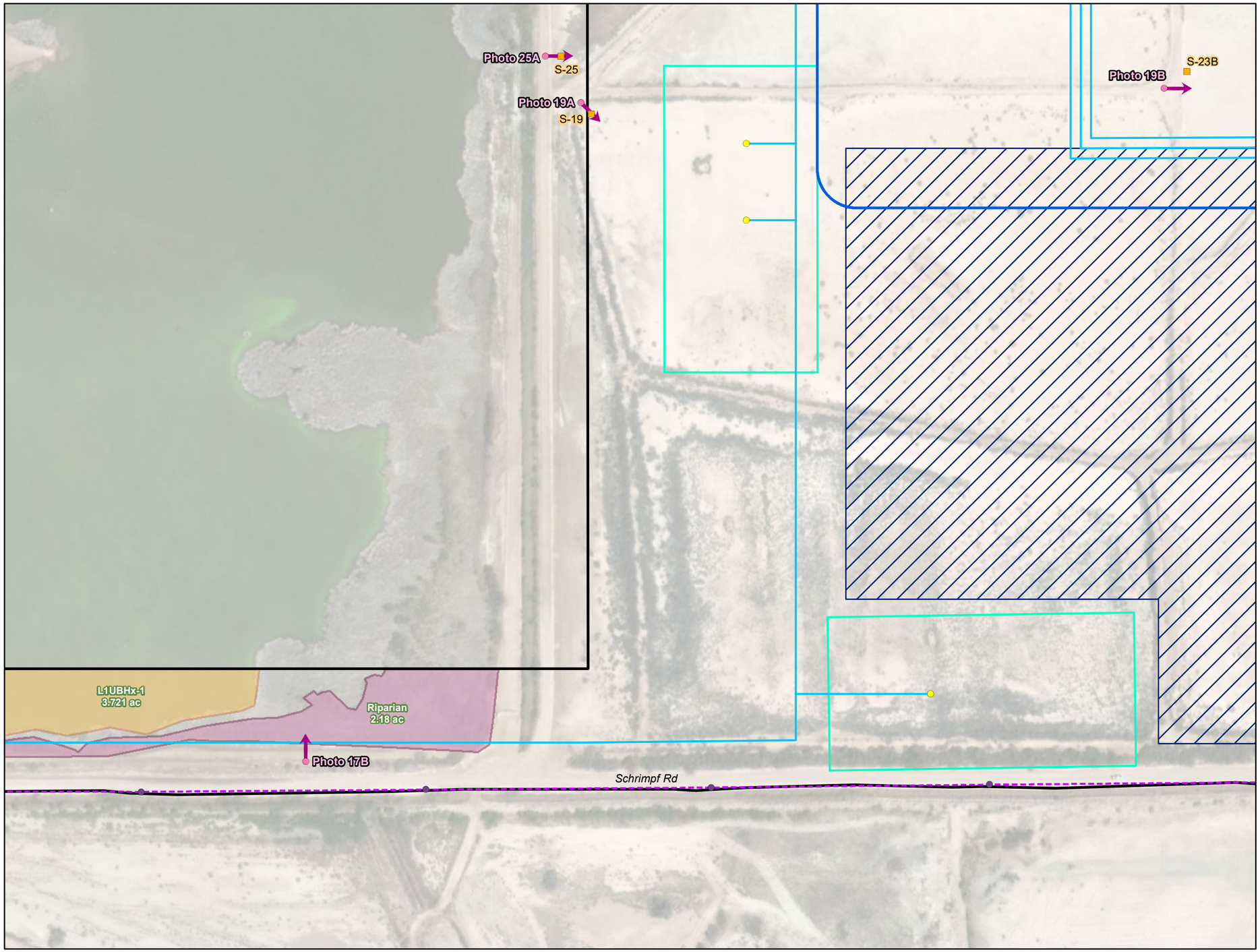

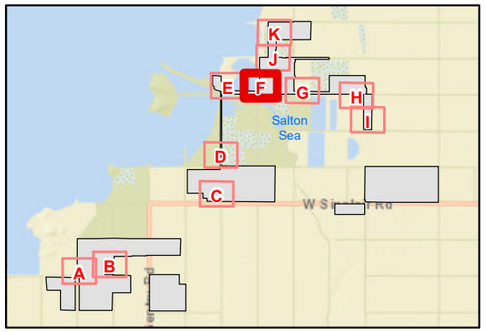

Legend

- Aquatic Resources Study Area (1,893.9 acres)
- Sample Point
- Photo Point

Aquatic Resources

- Wetland (18.145 ac)
- Other Waters (39.237 ac)

Other Watercourses and Regulated Habitat

- Watercourse (1.416 ac; 1,589 lf)
- Riparian Habitat (3.433 ac)

Proposed Project Features

- Plant
- Well Pad
- Injection Well
- Production Well
- Pipeline
- Water Supply Pipeline
- Gen-Tie Line Pole
- Gen-Tie Line
- Pull Site
- Switching Station
- Borrow Pit
- Construction Camp
- Construction Laydown and Parking Areas

Notes:
ac = acre
lf = linear feet

N

0 100 200 400
Feet

Appendix 5.2C Figure 1F
Aquatic Resource Delineation Results
Morton Bay Geothermal Project
Imperial County, California

Jacobs

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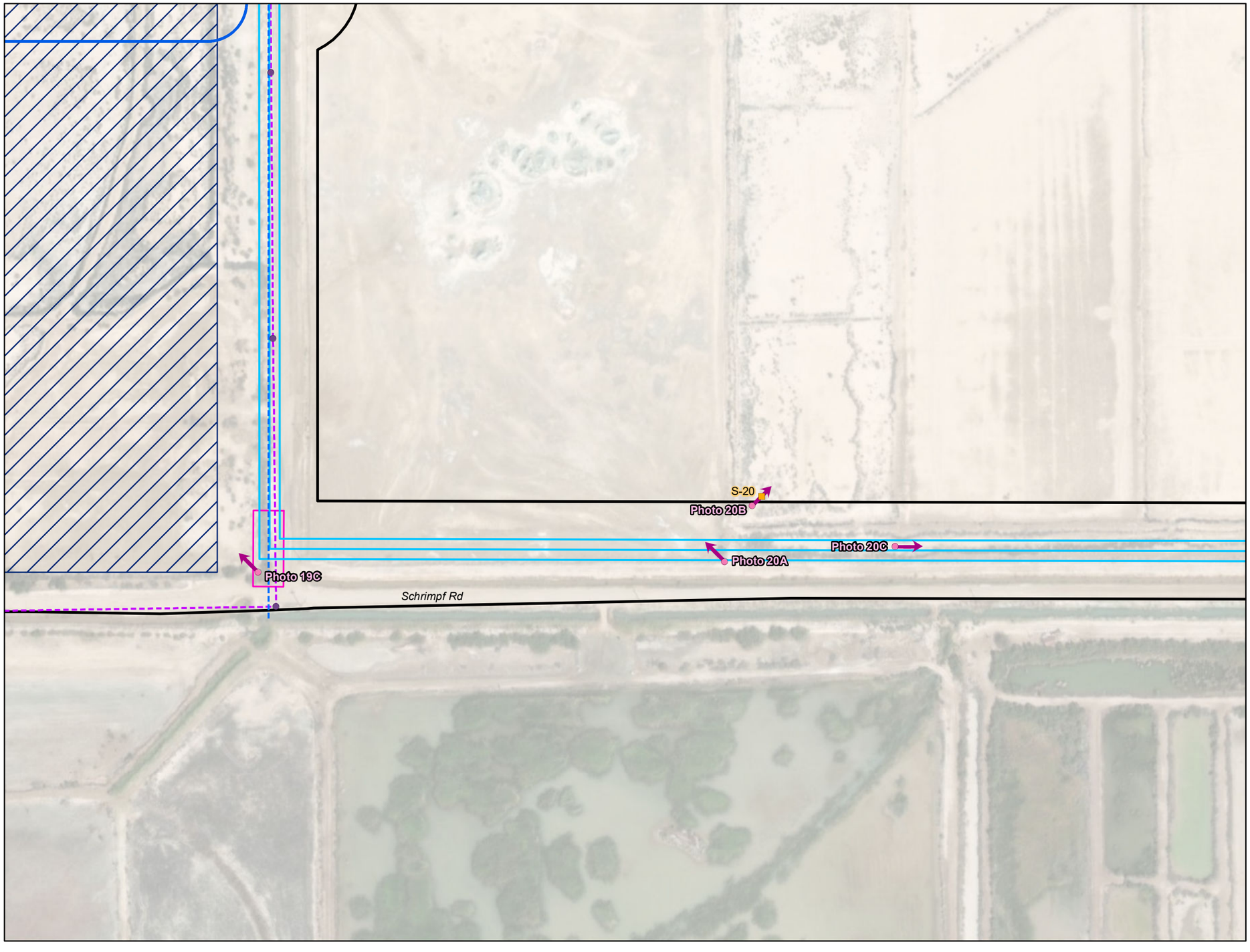

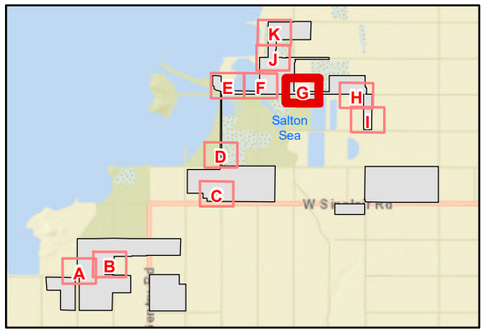

Legend

- Aquatic Resources Study Area (1,893.9 acres)
- Sample Point
- Photo Point

Aquatic Resources

- Wetland (18.145 ac)
- Other Waters (39.237 ac)

Other Watercourses and Regulated Habitat

- Watercourse (1.416 ac; 1,589 lf)
- Riparian Habitat (3.433 ac)

Proposed Project Features

- Plant
- Well Pad
- Injection Well
- Production Well
- Pipeline
- Water Supply Pipeline
- Gen-Tie Line Pole
- Gen-Tie Line
- Pull Site
- Switching Station
- Borrow Pit
- Construction Camp
- Construction Laydown and Parking Areas

Notes:
ac = acre
lf = linear feet

N

0 100 200 400
Feet

Appendix 5.2C Figure 1G
Aquatic Resource Delineation Results
Morton Bay Geothermal Project
Imperial County, California

Jacobs

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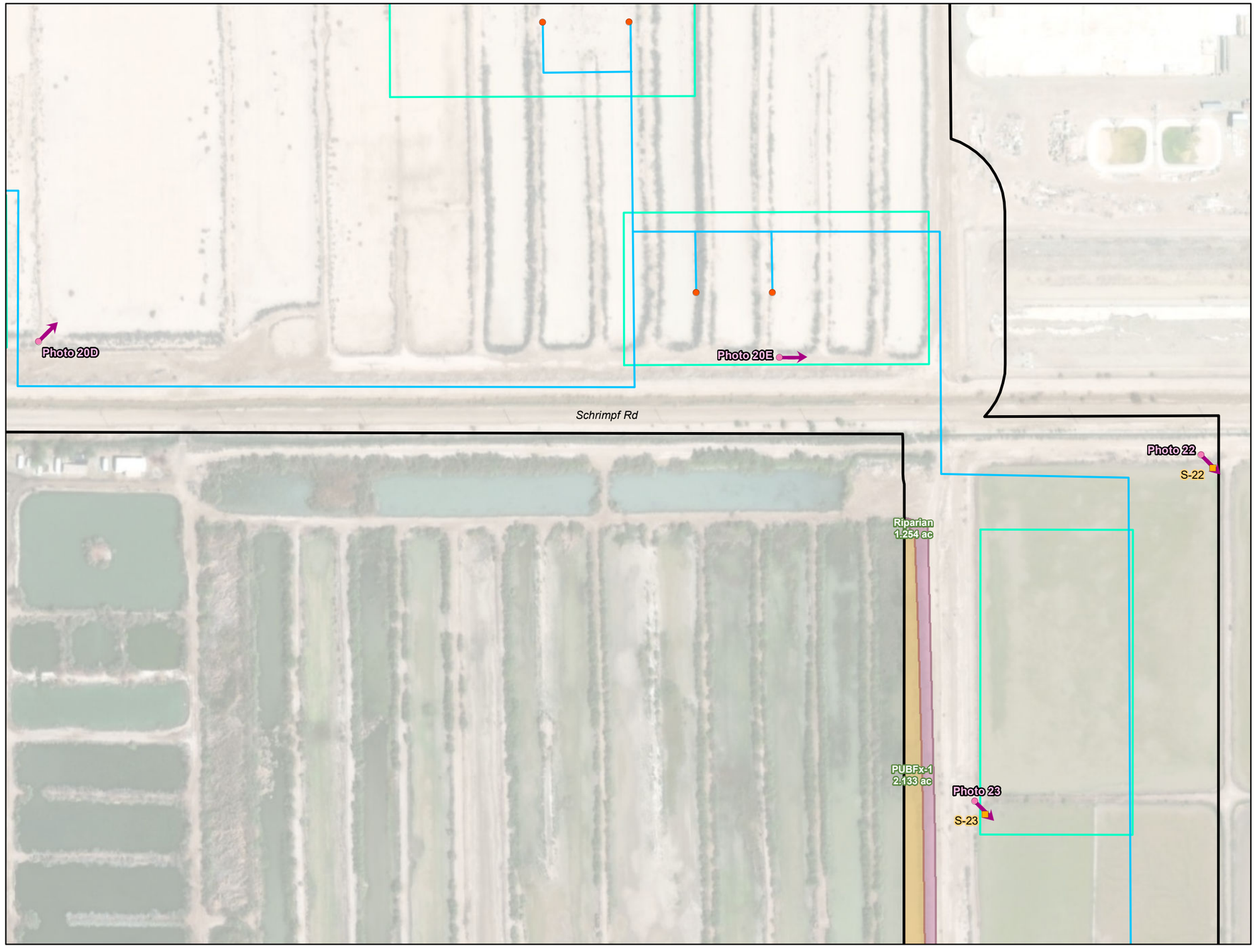

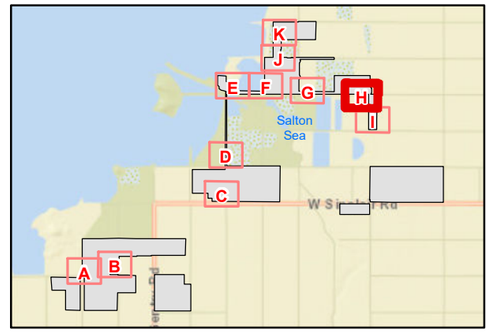

Legend

- Aquatic Resources Study Area (1,893.9 acres)
- Sample Point
- Photo Point

Aquatic Resources

- Wetland (18.145 ac)
- Other Waters (39.237 ac)

Other Watercourses and Regulated Habitat

- Watercourse (1.416 ac; 1,589 lf)
- Riparian Habitat (3.433 ac)

Proposed Project Features

- Plant
- Well Pad
- Injection Well
- Production Well
- Pipeline
- Water Supply Pipeline
- Gen-Tie Line Pole
- Gen-Tie Line
- Pull Site
- Switching Station
- Borrow Pit
- Construction Camp
- Construction Laydown and Parking Areas

Notes:
ac = acre
lf = linear feet

N

0 100 200 400
Feet

Appendix 5.2C Figure 1H
Aquatic Resource Delineation Results
Morton Bay Geothermal Project
Imperial County, California

Jacobs

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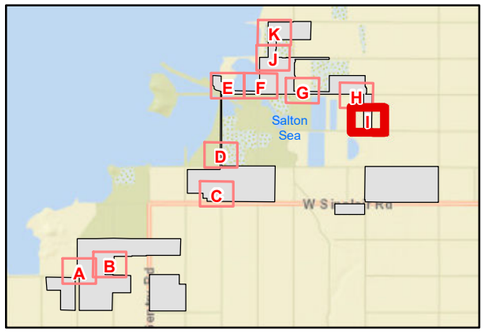

Legend

- Aquatic Resources Study Area (1,893.9 acres)
- Sample Point
- Photo Point

Aquatic Resources

- Wetland (18.145 ac)
- Other Waters (39.237 ac)

Other Watercourses and Regulated Habitat

- Watercourse (1.416 ac; 1,589 lf)
- Riparian Habitat (3.433 ac)

Proposed Project Features

- Plant
- Well Pad
- Injection Well
- Production Well
- Pipeline
- Water Supply Pipeline
- Gen-Tie Line Pole
- Gen-Tie Line
- Pull Site
- Switching Station
- Borrow Pit
- Construction Camp
- Construction Laydown and Parking Areas

Notes:
ac = acre
lf = linear feet

N

0 100 200 400
Feet

Appendix 5.2C Figure 1l
Aquatic Resource Delineation Results
Morton Bay Geothermal Project
Imperial County, California

Jacobs

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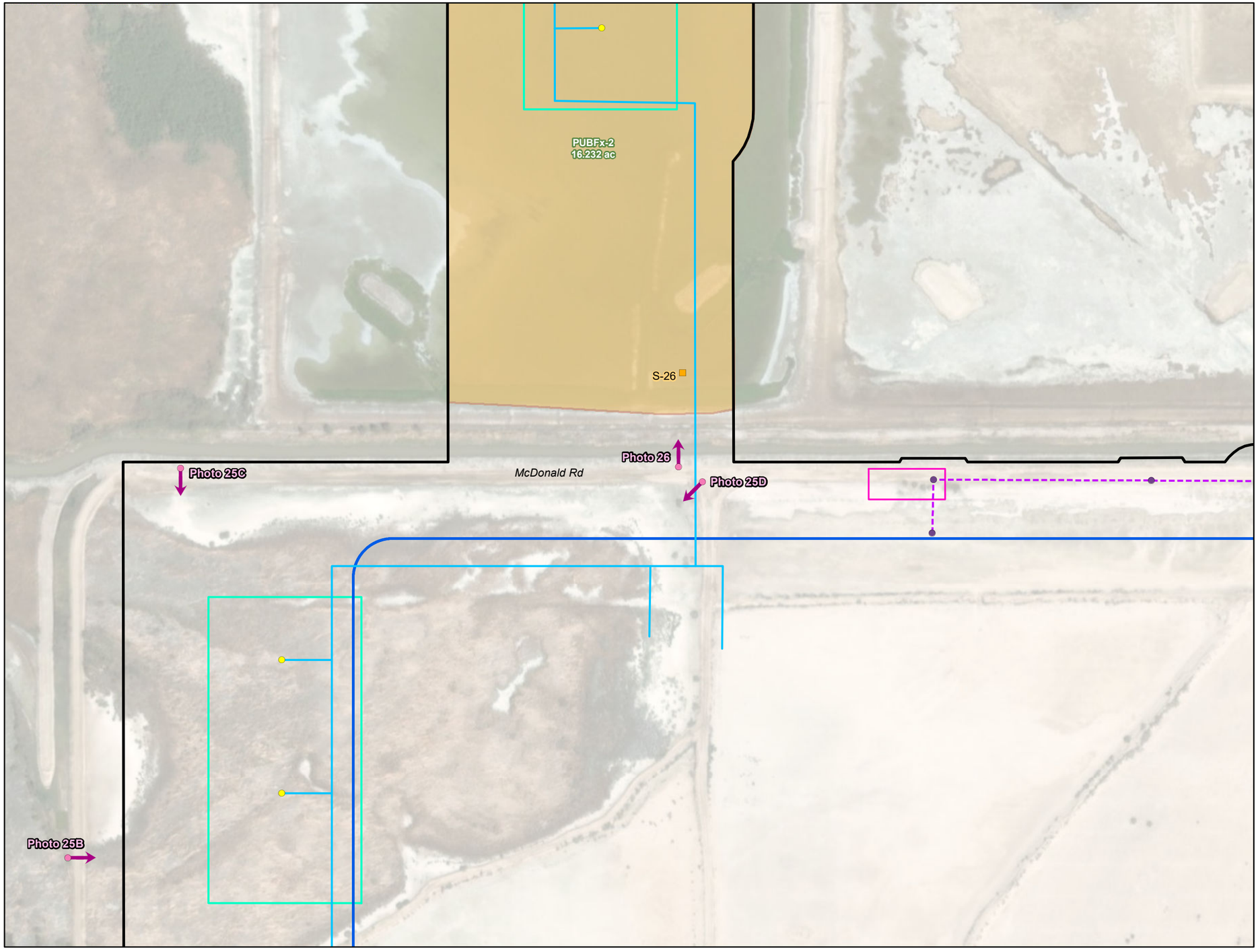

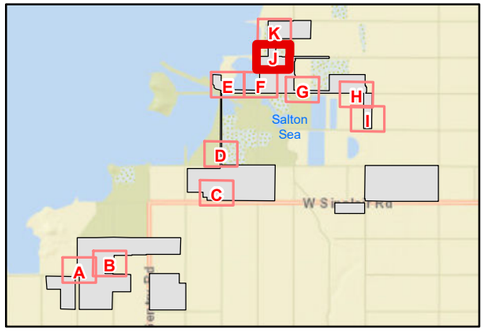

Legend

- Aquatic Resources Study Area (1,893.9 acres)
- Sample Point
- Photo Point

Aquatic Resources

- Wetland (18.145 ac)
- Other Waters (39.237 ac)

Other Watercourses and Regulated Habitat

- Watercourse (1.416 ac; 1,589 lf)
- Riparian Habitat (3.433 ac)

Proposed Project Features

- Plant
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- Gen-Tie Line
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Notes:
ac = acre
lf = linear feet

N

0 100 200 400
Feet

Appendix 5.2C Figure 1J
Aquatic Resource Delineation Results
Morton Bay Geothermal Project
Imperial County, California

Jacobs

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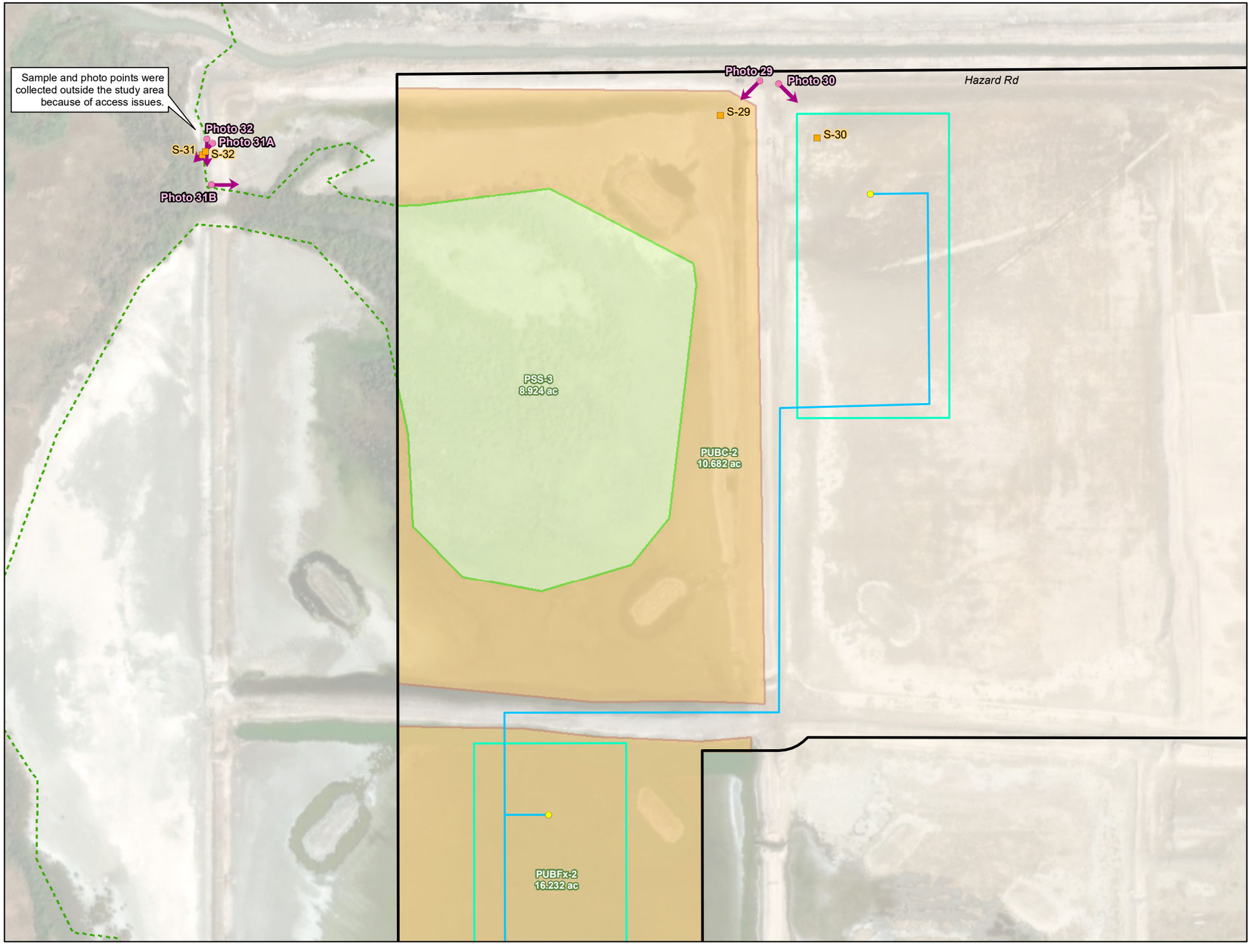

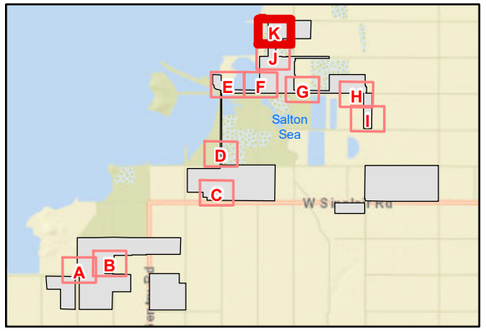

Legend

- Aquatic Resources Study Area (1,893.9 acres)
- Sample Point
- Photo Point

Aquatic Resources

- Wetland (18.145 ac)
- Other Waters (39.237 ac)

Other Watercourses and Regulated Habitat

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Proposed Project Features

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- Gen-Tie Line
- Pull Site
- Switching Station
- Borrow Pit
- Construction Camp
- Construction Laydown and Parking Areas

Notes:
ac = acre
lf = linear feet

N

0 100 200 400
Feet

Appendix 5.2C Figure 1K
Aquatic Resource Delineation Results
Morton Bay Geothermal Project
Imperial County, California

Jacobs

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Photo 1: View to the north at **Sample Point 1.** Photo shows an area mapped by National Wetland Inventory (NWI) as a seasonally flooded palustrine excavation with unconsolidated shore (PUSCx), but no wetland indicators are present.

Photo 2: View to the west at **Sample Point 2.** Photo shows an area mapped by NWI as PUSCx, but no wetland indicators are present.

Photo 3: View to the north at **Sample Point 3.** Photo shows an area mapped by NWI as PUSCx, but no wetland indicators are present.

Photo 4: View to the east at **Sample Point 4.** Photo shows an area mapped by NWI as PUSCx, but no wetland indicators are present.

Photo 5A: View to the north at **Sample Point 5.** Photo shows an area mapped by NWI as palustrine scrub-shrub (PSS) and by National Hydrography Dataset (NHD) as an intermittent lake/pond, but no hydrology indicators are present.

Photo 5B: View to the southwest at **Sample Point 5.** Photo shows an area mapped by NWI as PSS and by NHD as an intermittent lake/pond, but no hydrology indicators are present.

Photo 6A: View to the northwest at **Sample Point 6.** Photo shows the NHD- and NWI-mapped perennial stream **PS-1**, **Alamo River**, flowing southeast to northwest towards the Salton Sea, with fringe palustrine emergent wetland PEM-1.

Photo 6B: View to the southeast at **Sample Point 6.** Photo shows the NHD- and NWI-mapped perennial stream **PS-1**, **Alamo River**, flowing southeast to northwest towards the Salton Sea, with fringe palustrine emergent wetland PEM-1.

Photo 7: View to the south at **Sample Point 7.** Photo shows fringe palustrine emergent wetland **PEM-1** on the banks of PS-1 Alamo River.

Photo 8: View to the east at **Sample Point 8.** Photo shows the paired upland point for Sample Point 7.

Photo 9: View to the northwest at **Sample Point 9.** The photo shows fringe/depressional palustrine scrub-shrub wetland **PSS-1** on Morton Bay.

Photo 10A: View to the north at **Sample Point 10.** The photo shows palustrine seasonally flooded salt flat **PUBC-1A** abutting PSS-1 and Morton Bay.

Photo 10B: View to the southeast of **PUBC-1B** separated by a road from PSS-2.

Photo 11: View to the northwest at **Sample Point 11.** Photo shows the paired upland point for Sample Point 9 and Sample Point 10.

Photo 12: View to the south at **Sample Point 12.** Photo shows **Ditch-1**, a manmade drainage leading from PUBC-1A to Morton Bay.

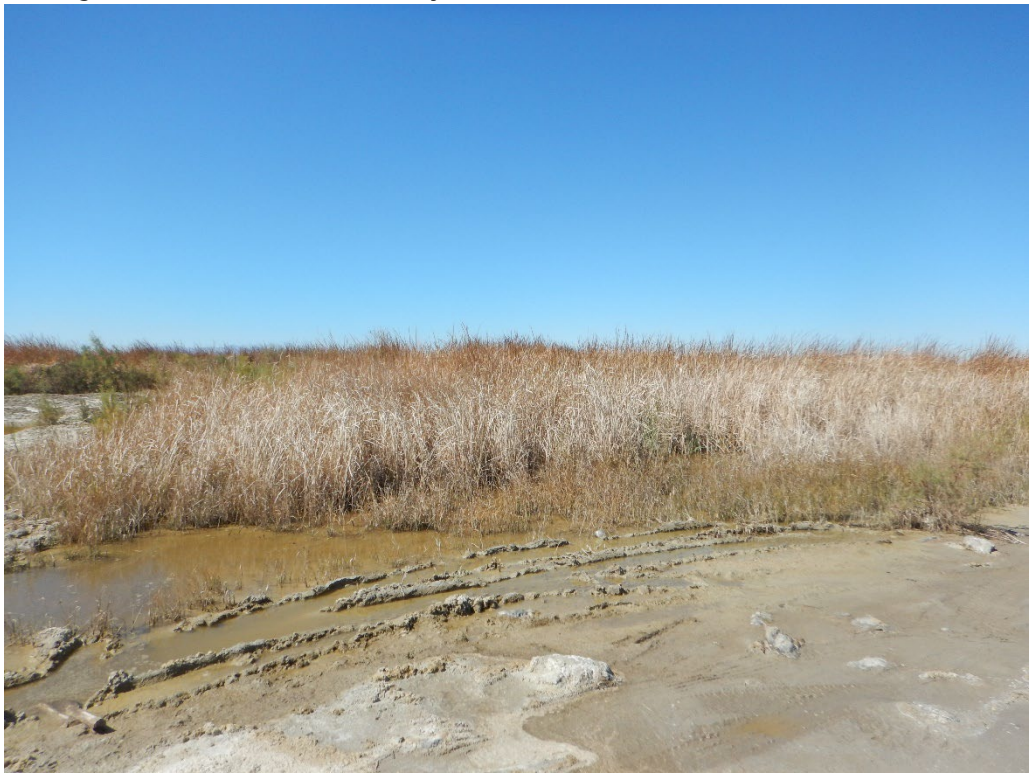


Photo 13A: View to the northwest at **Sample Point 13.** Photo shows fringe palustrine emergent wetland **PEM-2A** on Morton Bay.

Photo 13B: View to the east at **Sample Point 13.** Photo shows fringe palustrine emergent wetland **PEM-2B** (background) and **PUBC-1A** (foreground).

Photo 14: View to the south at **Sample Point 14.** The photo shows NWI-mapped **L1UBH-1, Morton Bay.**

Photo 15A: View to the west at **Sample Point 15.** The photo shows fringe palustrine scrub-shrub wetland **PSS-2A** on L1UBH-1, Morton Bay.

Photo 15B/17/18: View to the east of palustrine scrub shrub **PSS-2B**, riparian fringe (**Sample Point 17**), and **L1UBHx-1** (**Sample Point 18**).

Photo 16: View to the north at **Sample Point 16.** The photo shows the paired upland point for Sample Point 15.

Photo 17B: View to the north of riparian area along L1UBHx-1**.**

Photo 19A: View to the southeast at **Sample Point 19.** The area is NWI-mapped as PUSCx and NHD-mapped as an intermittent reservoir. Surface soil cracks and hydric soils are likely relictual.

Photo 19B: View to the east of abandoned industrial pond mapped by NWI as PUSCx and by NHD as an intermittent reservoir. Surface soil cracks and hydric soils are likely relictual.

Photo 19C: View to the northwest of an abandoned industrial pond mapped by NWI as PUSCx and by NHD as an intermittent reservoir. Surface soil cracks and hydric soils are likely relictual.

Photo 20A: View to the northwest of an abandoned industrial pond mapped by NHD as an intermittent reservoir, but lacking hydric soil indicators. Surface soil cracks are likely relictual from historical hydrologic regime.

Photo 20B: View to the northeast at **Sample Point 20.** The area is NWI-mapped as PUSCx and NHD-mapped as an intermittent reservoir, but no hydric soil indicators are present. Surface soil cracks are likely relictual from historical hydrologic regime.

Photo 20C: View to the east of an abandoned industrial pond. The area is NWI-mapped as PUSCx and NHD-mapped as an intermittent reservoir, but no hydric soil indicators are present. Surface soil cracks are likely relictual from historical hydrologic regime.

Photo 20D: View to the northeast of an abandoned industrial pond. The area is NWI-mapped as PUSCx and NHD-mapped as an intermittent reservoir, but no hydric soil indicators are present. Surface soil cracks are likely relictual from historical hydrologic regime.

Photo 20E: View to the north of an abandoned industrial pond. The area is NWI-mapped as PUSCx and NHD-mapped as an intermittent reservoir, but no hydric soil indicators are present. Surface soil cracks are likely relictual from historical hydrologic regime.

Photo 21: View to the north at **Sample Point 21.** Photo shows NWI-mapped semipermanently flooded palustrine excavation **PUBFx-1** with fringe riparian area.

Photo 22: View to the southeast at **Sample Point 22.** Photo shows area mapped by NWI as a seasonally flooded palustrine excavation and by NHD as an intermittent reservoir. This area is managed for waterfowl hunting and lacks hydric soil indicators.

Photo 23: View to the southeast at **Sample Point 23.** Photo shows area mapped by NWI as a seasonally flooded palustrine excavation and by NHD as an intermittent reservoir. This area is managed for waterfowl hunting and lacks hydric soil indicators.

Photo 24: View to the southeast at **Sample Point 24.** Photo shows area mapped by NWI as a seasonally flooded palustrine excavation and by NHD as an intermittent reservoir. This area is managed for waterfowl hunting and lacks hydric soil indicators.

Photo 25A: View to the east at **Sample Point 25.** The photo shows an area previously qualifying as a wetland, but construction of the O-N Drain Connector in 2019 severed hydrologic connectivity.

Photo 25B: View to the east of area previously qualifying as a wetland, but construction of the O-N Drain Connector in 2019 severed hydrologic connectivity.

Photo 25C: View to the south of area previously qualifying as a wetland, but construction of the O-N Drain Connector in 2019 severed hydrologic connectivity.

Photo 25D: View to the southwest of area previously qualifying as a wetland, but construction of the O-N Drain Connector in 2019 severed hydrologic connectivity.

Photo 26: View to the north at **Sample Point 26.** The photo shows NWI-mapped semipermanently flooded palustrine excavation **PUBFx-2** (background).

Photo 27A: View to the southwest at **Sample Point 27.** The photo shows depressional palustrine scrub-shrub wetland **PSS-3** in area mapped by NWI as L2USCx/L2UBFx.

Photo 27B: View to the east of depressional palustrine scrub-shrub wetland **PSS-3** in area mapped by NWI as L2USCx/L2UBFx .

Photo 28: View to the south at **Sample Point 28.** Photo shows the paired upland point for Sample Point 27.

Photo 29: View to the southwest at **Sample Point 29.** The photo shows palustrine seasonally flooded salt flat **PUBC-2**. The area is NWI-mapped as L2USCx, but surface water lacks sufficient coverage and depth.

Photo 30: View to the southeast at **Sample Point 30.** Photo shows an area mapped by NWI as L2USCx and by NHD as an intermittent reservoir, but no indicators are present.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Morton Bay Geothermal Project City/County: Imperial County Sampling Date: 3/1/22

Applicant/Owner: Morton Bay Geothermal LLC State: CA Sampling Point: S-1

Investigator(s): R. Newton, R. John Section, Township, Range: S33 T11S R13E

Landform (hillslope, terrace, etc.): manmade terrace Local relief (concave, convex, none): none Slope (%): 0

Subregion (LRR): D - Interior Deserts Lat: 33.162391° Long: -115.631209° Datum: WGS84

Soil Map Unit Name: Imperial-Glenbar silty clay loams, wet, 0 to 2 percent slopes NWI classification: PUSCx

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No ✓ (If no, explain in Remarks.)

Are Vegetation _____, Soil ✓, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✓	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes _____	No ✓	

Remarks:

Area mapped by NWI as a seasonally flooded palustrine excavation (PUSCx), but no wetland indicators are present. The Antecedent Precipitation Tool determined the area was drier than normal at the time of sampling.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: 15' radius)			
1. Atriplex lentiformis	20	Y	FACU
2.			
3.			
4.			
5.			
	20 = Total Cover		
Herb Stratum (Plot size: 5' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 100 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species _____	x 1 =	_____
FACW species _____	x 2 =	_____
FAC species _____	x 3 =	_____
FACU species 20	x 4 =	80
UPL species _____	x 5 =	_____
Column Totals: 20 (A)		80 (B)

Prevalence Index = B/A = 4.0

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✓

Remarks:

SOIL

Sampling Point: S-1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 3	7.5 YR 4/3	100					SiLo	~40% gravels/fill
3 - 18	7.5 YR 4/3	100					SiLo	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks:

Constructed area

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Morton Bay Geothermal Project City/County: Imperial County Sampling Date: 3/1/22

Applicant/Owner: Morton Bay Geothermal LLC State: CA Sampling Point: S-2

Investigator(s): R. Newton, R. John Section, Township, Range: S33 T11S R13E

Landform (hillslope, terrace, etc.): manmade terrace Local relief (concave, convex, none): none Slope (%): 0

Subregion (LRR): D - Interior Deserts Lat: 33.163147° Long: -115.630995° Datum: WGS84

Soil Map Unit Name: Imperial-Glenbar silty clay loams, wet, 0 to 2 percent slopes NWI classification: PUSCx

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No ✓ (If no, explain in Remarks.)

Are Vegetation _____, Soil ✓, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✓	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes _____	No ✓	

Remarks:

Area mapped by NWI as a seasonally flooded palustrine excavation (PUSCx), but no wetland indicators are present. The Antecedent Precipitation Tool determined the area was drier than normal at the time of sampling.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: 15' radius)			
1. Atriplex lentiformis	20	Y	FACU
2.			
3.			
4.			
5.			
	20 = Total Cover		
Herb Stratum (Plot size: 5' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 100 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species _____	x 1 =	_____
FACW species _____	x 2 =	_____
FAC species _____	x 3 =	_____
FACU species 20	x 4 =	80
UPL species _____	x 5 =	_____
Column Totals: 20 (A)		80 (B)

Prevalence Index = B/A = 4.0

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✓

Remarks:

SOIL

Sampling Point: S-2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0 - 3	7.5 YR 4/3	100					SiLo	~40% gravels
3 - 18	7.5 YR 4/3	100					SiLo	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks:

Constructed area

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Morton Bay Geothermal Project City/County: Imperial County Sampling Date: 3/1/22

Applicant/Owner: Morton Bay Geothermal LLC State: CA Sampling Point: S-3

Investigator(s): R. Newton, R. John Section, Township, Range: S33 T 1S R13E

Landform (hillslope, terrace, etc.): cleared dirt parking lot? Local relief (concave, convex, none): none Slope (%): 0

Subregion (LRR): D - Interior Deserts Lat: 33.164302° Long: -115.623849° Datum: WGS84

Soil Map Unit Name: Holtville silty clay, wet NWI classification: PUSCx

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No ✓ (If no, explain in Remarks.)

Are Vegetation ✓, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✓	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes _____	No ✓	

Remarks:

Area mapped by NWI as a seasonally flooded palustrine excavation (PUSCx), but no wetland indicators are present. The Antecedent Precipitation Tool determined the area was drier than normal at the time of sampling.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: 5' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 100 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: _____ (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals: (A)		(B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✓

Remarks:

No vegetation present. Area has been cleared of vegetation and may serve as parking for neighboring industries.

SOIL

Sampling Point: S-3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 18	7.5 YR 4/3	100					SiLo	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Morton Bay Geothermal Project City/County: Imperial County Sampling Date: 3/14/22

Applicant/Owner: Morton Bay Geothermal LLC State: CA Sampling Point: S-4

Investigator(s): R. Newton, M. King Section, Township, Range: S26 T11S R13E

Landform (hillslope, terrace, etc.): manmade terrace Local relief (concave, convex, none): none Slope (%): 0

Subregion (LRR): D - Interior Deserts Lat: 33.177045° Long: -115.596687° Datum: WGS84

Soil Map Unit Name: Imperial silty clay, wet NWI classification: PUSCx

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No ✓ (If no, explain in Remarks.)

Are Vegetation _____, Soil ✓, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✓	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes _____	No ✓	

Remarks:

Area mapped by NWI as a seasonally flooded palustrine excavation (PUSCx). No wetland indicators are present. The Antecedent Precipitation Tool determined the area was drier than normal at the time of sampling.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: 5' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 100 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: _____ (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = 0

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✓

Remarks:

Constructed nature of the area likely precludes vegetative growth.

SOIL

Sampling Point: S-4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 17	7.5 YR 4/3	100					SiCl	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks:

constructed area

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Morton Bay Geothermal Project City/County: Imperial County Sampling Date: 3/12/22

Applicant/Owner: Morton Bay Geothermal LLC State: CA Sampling Point: S-5

Investigator(s): R. Newton, M. King Section, Township, Range: S27 T11S R13E

Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): concave Slope (%): 0-2

Subregion (LRR): D - Interior Deserts Lat: 33.187379 Long: -115.597304 Datum: WGS 84

Soil Map Unit Name: Imperial-Glenbar silty clay loams, wet, 0 to 2 percent slopes NWI classification: PSS

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No ✓ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes _____	No ✓	

Remarks:

Area mapped by NWI as palustrine scrub-shrub wetland (PSS) and by NHD as an intermittent lake/pond, but the area is lacking wetland hydrology indicators. This area was previously inundated by the Salton Sea, and hydric soils are likely relictual. The Antecedent Precipitation Tool determined the area was drier than normal at the time of sampling.

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: 15' radius)			
1. Tamarix sp.	85	Y	FAC
2.			
3.			
4.			
5.			
	85 = Total Cover		
Herb Stratum (Plot size: 5' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 100 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species _____	x 1 =	_____
FACW species _____	x 2 =	_____
FAC species 85	x 3 =	255
FACU species _____	x 4 =	_____
UPL species _____	x 5 =	_____
Column Totals: 85 (A)		255 (B)

Prevalence Index = B/A = 3.0

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

✓ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

SOIL

Sampling Point: S-5

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 7	2.5 Y 6/2	80					ClLo	
	2.5 Y 4/1	15	7.5 YR 4/6	5	C	M	ClLo	
7 - 18	5 YR 4/4	100					Cl	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ **No** _____

Remarks:

Soils are likely relictual from when this area was inundated by the Salton Sea.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes _____ **No** ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

S-6

PS-1 Alamo River | **OHWM Delineation Cover Sheet** | Page 1 of 2

Project: Morton Bay Geothermal Project **Date:** 3/12/22

Location: Imperial County, California **Investigator(s):** R Newton, M King

Project Description:
Study area includes all potential disturbance areas associated with proposed geothermal project

Describe the river or stream's condition (disturbances, in-stream structures, etc.):
PS-1 Alamo River flows southeast to northwest before terminating in the Salton Sea. The river is crossed by several bridges and likely receives hydrologic inputs from irrigation infrastructure.

Off-site Information

Remotely sensed image(s) acquired? ☐ **Yes** ☒ **No** [If yes, attach image(s) to datasheet(s) and indicate approx. locations of transects, OHWM, and any other features of interest on the image(s); describe below] Description:

Hydrologic/hydraulic information acquired? ☐ **Yes** ☒ **No** [If yes, attach information to datasheet(s) and describe below.] Description:

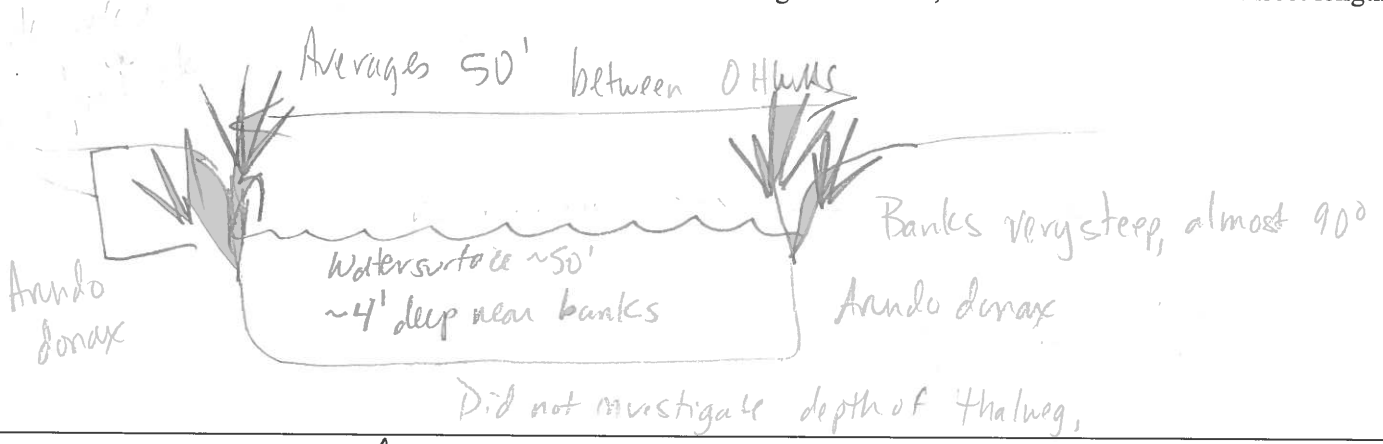
List and describe any other supporting information received/acquired:

NHD, NWI

Instructions: Complete one cover sheet and one or more datasheets for each project site. Each datasheet should capture the dominant characteristics of the OHWM along some length of a given stream. Complete enough datasheets to adequately document up- and/or downstream variability in OHWM indicators, stream conditions, etc. Transect locations can be marked on a recent aerial image or their GPS coordinates noted on the datasheet.

Datasheet # S-6 Alamo River PSI **OHWM Delineation Datasheet** Page 2 of 2

Transect (cross-section) drawing: (choose a location that is representative of the dominant stream characteristics over some distance; label the OHWM and other features of interest along the transect; include an estimate of transect length)



Break in Slope at OHWM: ☒ Sharp (> 60°) | ☐ Moderate (30–60°) | ☐ Gentle (< 30°) | ☐ None
Notes/Description:

Sediment Texture: Estimate percentages to describe the general sediment texture above and below the OHWM

	Clay/Silt <0.05mm	Sand 0.05 – 2mm	Gravel 2mm – 1cm	Cobbles 1 – 10cm	Boulders >10cm	Developed Soil Horizons (Y/N)
Above OHWM		100				N
Below OHWM	100					Y

Notes/Description:

Vegetation: Estimate absolute percent cover to describe general vegetation characteristics above and below the OHWM

	Tree (%)	Shrub (%)	Herb (%)	Bare (%)
Above OHWM			75	25
Below OHWM				100

Notes/Description: Arundo donax

Other Evidence: List/describe any additional field evidence and/or lines of reasoning used to support your delineation

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Morton Bay Geothermal Project City/County: Imperial County Sampling Date: 3/12/22

Applicant/Owner: Morton Bay Geothermal LLC State: CA Sampling Point: S-7

Investigator(s): R. Newton, M. King Section, Township, Range: S23 T11S R13E

Landform (hillslope, terrace, etc.): streamside fringe Local relief (concave, convex, none): concave Slope (%): 20

Subregion (LRR): D - Interior Deserts Lat: 33.198821 Long: -115.595665 Datum: WGS84

Soil Map Unit Name: Fluvaquents, saline NWI classification: R2UBH

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No ✓ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

Fringe palustrine emergent wetland PEM-1 on the banks of perennial stream PS-1 Alamo River. The Antecedent Precipitation Tool determined the area was drier than normal at the time of sampling.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: 5' radius)			
1. Arundo donax	80	Y	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	_____ = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 20 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species 80	x 2 =	160
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals: 80 (A)		160 (B)

Prevalence Index = B/A = 2.0

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

✓ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

SOIL

Sampling Point: S-7

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0 - 8	7.5 YR 4/3	100					Sa	
8 - 18	2.5 Y 6/1	85	7.5 YR 4/6	15	C	M	Cl	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ **No** _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ✓ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No _____ Depth (inches): _____

Water Table Present? Yes ✓ No _____ Depth (inches): 10

Saturation Present? (includes capillary fringe) Yes ✓ No _____ Depth (inches): 8

Wetland Hydrology Present? Yes ✓ **No** _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Morton Bay Geothermal Project City/County: Imperial County Sampling Date: 3/12/22

Applicant/Owner: Morton Bay Geothermal LLC State: CA Sampling Point: S-8

Investigator(s): R. Newton, M. King Section, Township, Range: S23 T11S R13E

Landform (hillslope, terrace, etc.): bankslope Local relief (concave, convex, none): none Slope (%): 50

Subregion (LRR): D - Interior Deserts Lat: 33.198839 Long: -115.595652 Datum: WGS85

Soil Map Unit Name: Fluvaquents, saline NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No ✓ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✓	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes _____	No ✓	

Remarks:

Paired upland point for PEM-1. The Antecedent Precipitation Tool determined the area was drier than normal at the time of sampling.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: 5' radius)			
1. Arundo donax	20	Y	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	20 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 80 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species 20	x 2 = 40
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: 20 (A)	40 (B)

Prevalence Index = B/A = 2.0

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

✓ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

SOIL

Sampling Point: S-8

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 18	7.5 YR 4/3	100					Sa	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ✓ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Morton Bay Geothermal Project City/County: Imperial County Sampling Date: 3/11/22

Applicant/Owner: Morton Bay Geothermal LLC State: CA Sampling Point: S-9

Investigator(s): R. Newton, M. King Section, Township, Range: S22 T11S R13E

Landform (hillslope, terrace, etc.): lacustrine fringe Local relief (concave, convex, none): minor concave Slope (%): 0-1

Subregion (LRR): D - Interior Deserts Lat: 33.199757 Long: -115.597395 Datum: WGS84

Soil Map Unit Name: Fluvaquents, saline NWI classification: L2USC

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No ✓ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

Depressional/fringe palustrine scrub-shrub wetland PSS-1 along Morton Bay in area mapped by NWI as L2USC. This wetland likely developed after the Salton Sea receded. The Antecedent Precipitation Tool determined the area was drier than normal at the time of sampling.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: 5 x 20)			
1. Tamarix sp.	35	Y	FAC
2.			
3.			
4.			
5.			
	35 = Total Cover		
Herb Stratum (Plot size: 5 x 5)			
1. Arundo donax	15	Y	FACW
2. Schoenoplectus maritimus	25	Y	OBL
3.			
4.			
5.			
6.			
7.			
8.			
	40 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 60 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species 25	x 1 =	25
FACW species 15	x 2 =	30
FAC species 35	x 3 =	105
FACU species _____	x 4 =	
UPL species _____	x 5 =	
Column Totals: 75 (A)		160 (B)

Prevalence Index = B/A = 2.1

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

✓ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

SOIL

Sampling Point: S-9

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0 - 2	2.5 Y 6/2	100					SiCl	
2 - 4	10 Y 5/Gley 1	90	7.5 YR 5/6	10	C	M	Cl	
4 - 5	10 YR 5/2	100					Cl	
5 - 18	10 Y 6/Gley 1	90	5 YR 4/6	10	C	M	Cl	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ **No** _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ✓ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ✓ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes ✓ No _____ Depth (inches): 8

Saturation Present? (includes capillary fringe) Yes ✓ No _____ Depth (inches): 8

Wetland Hydrology Present? Yes ✓ **No** _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Morton Bay Geothermal Project City/County: Imperial County Sampling Date: 3/11/22

Applicant/Owner: Morton Bay Geothermal LLC State: CA Sampling Point: S-10

Investigator(s): R. Newton, M. King Section, Township, Range: S22 T11S R13E

Landform (hillslope, terrace, etc.): exposed lake bed Local relief (concave, convex, none): none Slope (%): 0

Subregion (LRR): D - Interior Deserts Lat: 33.199788 Long: -115.597471 Datum: WGS 84

Soil Map Unit Name: Fluvaquents, saline NWI classification: L2USC

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No ✓ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✓	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

Seasonally flooded palustrine salt flat PUBC-1 occupying transitional area between wetlands fringing Morton Bay and man-made areas of higher topography. The Antecedent Precipitation Tool determined the area was drier than normal at the time of sampling.

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: 5' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 100 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: _____ (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = 0

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✓

Remarks:

No vegetation present.

SOIL

Sampling Point: S-10

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 2	2.5 Y 5/2	100					SiCl	
2 - 10	5 Y 5/1	80					ClLo	
	7.5 YR 4/6	10					Cl	
	2.5 YR 2.5/1	10					Cl	
10 - 18	2.5 Y 6/1	85	7.5 YR 4/6	15	C	M	Cl	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ **No** _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ✓ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes ✓ No _____ Depth (inches): 8

Saturation Present? (includes capillary fringe) Yes ✓ No _____ Depth (inches): 8

Wetland Hydrology Present? Yes ✓ **No** _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Morton Bay Geothermal Project City/County: Imperial County Sampling Date: 3/11/22

Applicant/Owner: Morton Bay Geothermal LLC State: CA Sampling Point: S-11

Investigator(s): R. Newton, M. King Section, Township, Range: S22 T11S R13E

Landform (hillslope, terrace, etc.): road slope Local relief (concave, convex, none): none Slope (%): 15

Subregion (LRR): D - Interior Deserts Lat: 33.19965 Long: -115.597441 Datum: WGS 84

Soil Map Unit Name: Fluvaquents, saline NWI classification: L2USC

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No ✓ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✓	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No _____	
Wetland Hydrology Present?	Yes _____	No ✓	

Remarks:

Paired upland point for PSS-1 and PUBC-1, representative of upland area upslope of Morton Bay. The Antecedent Precipitation Tool determined the area was drier than normal at the time of sampling.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: 5' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 100 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: _____ (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals: (A)		(B)

Prevalence Index = B/A = 0

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✓

Remarks:

SOIL

Sampling Point: S-11

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0 - 18	5 Y 6/2	85	7.5 YR 6/8	15	C	M	SiSa	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ✓ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ **No** _____

Remarks:

Redoximorphic features likely relictual from when this area was inundated by the Salton Sea.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes _____ **No** ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

S-12

Ditch-1 **OHWM Delineation Cover Sheet** Page 1 of 2

Project: Morton Bay Geothermal Project **Date:** 3/12/22

Location: Imperial County, California **Investigator(s):** R Newton, M. King

Project Description:

Study area includes all potential disturbance areas associated with proposed geothermal project.

Describe the river or stream's condition (disturbances, in-stream structures, etc.):

Ditch-1 is a manmade drainage extending through an adjacent salt flat towards Morton Bay. This ditch may have been constructed to facilitate drainage away from the adjacent dirt road.

Off-site Information

Remotely sensed image(s) acquired? ☐ **Yes** ☒ **No** [If yes, attach image(s) to datasheet(s) and indicate approx. locations of transects, OHWM, and any other features of interest on the image(s); describe below] Description:

Hydrologic/hydraulic information acquired? ☐ **Yes** ☒ **No** [If yes, attach information to datasheet(s) and describe below.] Description:

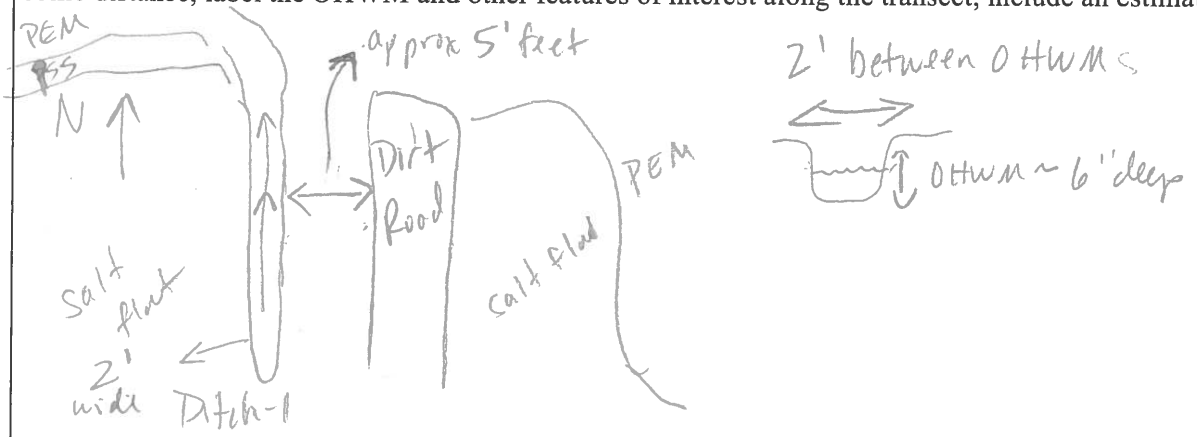
List and describe any other supporting information received/acquired:

NHD, NWI

Instructions: Complete one cover sheet and one or more datasheets for each project site. Each datasheet should capture the dominant characteristics of the OHWM along some length of a given stream. Complete enough datasheets to adequately document up- and/or downstream variability in OHWM indicators, stream conditions, etc. Transect locations can be marked on a recent aerial image or their GPS coordinates noted on the datasheet.

Datasheet # S-12 Ditch-1 **OHWM Delineation Datasheet** Page 2 of 2

Transect (cross-section) drawing: (choose a location that is representative of the dominant stream characteristics over some distance; label the OHWM and other features of interest along the transect; include an estimate of transect length)



Break in Slope at OHWM: ☒ Sharp (> 60°) | ☐ Moderate (30–60°) | ☐ Gentle (< 30°) | ☐ None

Notes/Description:

Sediment Texture: Estimate percentages to describe the general sediment texture above and below the OHWM

	Clay/Silt <0.05mm	Sand 0.05 – 2mm	Gravel 2mm – 1cm	Cobbles 1 – 10cm	Boulders >10cm	Developed Soil Horizons (Y/N)
Above OHWM	70	30				N
Below OHWM	100					N

Notes/Description:

Vegetation: Estimate absolute percent cover to describe general vegetation characteristics above and below the OHWM

	Tree (%)	Shrub (%)	Herb (%)	Bare (%)
Above OHWM				100
Below OHWM				100

Notes/Description:

Other Evidence: List/describe any additional field evidence and/or lines of reasoning used to support your delineation

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Morton Bay Geothermal Project City/County: Imperial County Sampling Date: 3/11/22

Applicant/Owner: Morton Bay Geothermal LLC State: CA Sampling Point: S-13

Investigator(s): R. Newton, M. King Section, Township, Range: S22 T11S R13E

Landform (hillslope, terrace, etc.): lake fringe Local relief (concave, convex, none): minor concave Slope (%): 0-1

Subregion (LRR): D - Interior Deserts Lat: 33.200924 Long: -115.597186 Datum: WGS 84

Soil Map Unit Name: Fluvaquents, saline NWI classification: L2USC

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No ✓ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

Fringe palustrine emergent wetland PEM-2 along the shores of Morton Bay. Area is mapped by NWI as a lake, but this wetland likely developed after the Salton Sea receded. The Antecedent Precipitation Tool determined the area was drier than normal at the time of sampling.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: 5' radius)			
1. Schoenoplectus maritimus	30	Y	OBL
2. Typha domingensis	40	Y	OBL
3.			
4.			
5.			
6.			
7.			
8.			
	70 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 30 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species 70	x 1 =	70
FACW species _____	x 2 =	_____
FAC species _____	x 3 =	_____
FACU species _____	x 4 =	_____
UPL species _____	x 5 =	_____
Column Totals: 70 (A)		70 (B)

Prevalence Index = B/A = 1.0

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

✓ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

SOIL

Sampling Point: S-13

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ **No** _____

Remarks:

Soils not investigated: hydric soils assumed in presence of dominant OBL vegetation and standing water.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ✓ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ✓ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ✓ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ✓ No _____ Depth (inches): 2

Water Table Present? Yes _____ No _____ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No _____ Depth (inches): _____

Wetland Hydrology Present? Yes ✓ **No** _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

High water table and saturation are assumed.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Morton Bay Geothermal Project City/County: Imperial County Sampling Date: 3/12/22

Applicant/Owner: Morton Bay Geothermal, LLC State: CA Sampling Point: S-14

Investigator(s): R. Newton, M. King Section, Township, Range: S22 T11S R13E

Landform (hillslope, terrace, etc.): lake Local relief (concave, convex, none): concave Slope (%): 0

Subregion (LRR): D - Interior Deserts Lat: 33.201662 Long: -115.597179 Datum: WGS 84

Soil Map Unit Name: Fluvaquents, saline NWI classification: L1UBH

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No ✓ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

NWI-mapped L1UBH-1, Morton Bay. The Antecedent Precipitation Tool determined the area was drier than normal at the time of sampling.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: 5' radius)			
1. Typha domingensis	25	Y	OBL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	25 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 75 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species 25	x 1 =	25
FACW species _____	x 2 =	_____
FAC species _____	x 3 =	_____
FACU species _____	x 4 =	_____
UPL species _____	x 5 =	_____
Column Totals: 25 (A)		25 (B)

Prevalence Index = B/A = 100

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

✓ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

SOIL

Sampling Point: S-14

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No _____

Remarks:

Soils not investigated

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ✓ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ✓ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ✓ No _____ Depth (inches): > 6 feet

Water Table Present? Yes _____ No _____ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No _____ Depth (inches): _____

Wetland Hydrology Present? Yes ✓ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Morton Bay Geothermal Project City/County: Imperial County Sampling Date: 3/12/22

Applicant/Owner: Morton Bay Geothermal LLC State: CA Sampling Point: S-15

Investigator(s): R. Newton, M. King Section, Township, Range: S23 T11S R13E

Landform (hillslope, terrace, etc.): lacustrine fringe Local relief (concave, convex, none): minor convex Slope (%): 0-1

Subregion (LRR): D - Interior Deserts Lat: 33.199482 Long: -115.595645 Datum: WGS 84

Soil Map Unit Name: Fluvaquents, saline NWI classification: L2USCx

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No ✓ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

Fringe palustrine scrub-shrub wetland PSS-2 on the fringes of L1UBH-1 Morton Bay . The Antecedent Precipitation Tool determined the area was drier than normal at the time of sampling.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: 12 ft x 20 ft)			
1. Allenrolfea occidentalis	25	Y	FACW
2. Tamarix sp.	40	Y	FAC
3.			
4.			
5.			
	65 = Total Cover		
Herb Stratum (Plot size: 5' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 100 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species 25	x 2 =	50
FAC species 40	x 3 =	120
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals: 65 (A)		170 (B)

Prevalence Index = B/A = 2.6

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

✓ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

SOIL

Sampling Point: S-15

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 3	2.5 Y 5/2	100					Sa	
3 - 5	7.5 YR 5/8	80					Sa	
	2.5 Y 5/2	20					Sa	
5 - 18	5 Y 5/2	80	7.5 YR 5/8	20	C	M	SaCl	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ **No** _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ✓ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes ✓ No _____ Depth (inches): 14

Saturation Present? (includes capillary fringe) Yes ✓ No _____ Depth (inches): 10

Wetland Hydrology Present? Yes ✓ **No** _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Morton Bay Geothermal Project City/County: Imperial County Sampling Date: 3/12/22

Applicant/Owner: Morton Bay Geothermal LLC State: CA Sampling Point: S-16

Investigator(s): R. Newton Section, Township, Range: S23 T11S R13E

Landform (hillslope, terrace, etc.): bankslope Local relief (concave, convex, none): none Slope (%): 0-5

Subregion (LRR): D - Interior Deserts Lat: 33.199467 Long: -115.595635 Datum: WGS 84

Soil Map Unit Name: Fluvaquents, saline NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No ✓ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes _____	No ✓	

Remarks:

Paired upland point for S-15. The Antecedent Precipitation Tool determined the area was drier than normal at the time of sampling.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: 12 x 20 ft.)			
1. Allenrolfea occidentalis	25	Y	FACW
2.			
3.			
4.			
5.			
	25 = Total Cover		
Herb Stratum (Plot size: 5' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 100 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species 25	x 2 = 50
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: 25 (A)	50 (B)

Prevalence Index = B/A = 2.0

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

✓ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

SOIL

Sampling Point: S-16

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0 - 3	7.5 YR 6/2	100					Sa	~20% road fill; Typha litter
3-19	7.5 YR 6/2	100					Sa	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ✓ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Morton Bay Geothermal Project City/County: Imperial County Sampling Date: 3/12/22

Applicant/Owner: Morton Bay Geothermal LLC State: CA Sampling Point: S-17

Investigator(s): R. Newton, M. King Section, Township, Range: S23 T11S R13E

Landform (hillslope, terrace, etc.): lake fringe Local relief (concave, convex, none): minor concave Slope (%): 0-2

Subregion (LRR): D - Interior Deserts Lat: 33.19943 Long: -115.595505 Datum: WGS 84

Soil Map Unit Name: Fluvaquents, saline NWI classification: L2USCx/L1UBHx

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No ✓ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes _____	No ✓	

Remarks:

Potential PSS wetland found to be lacking hydric soil and wetland hydrology indicators. Area is riparian. The Antecedent Precipitation Tool determined the area was drier than normal at the time of sampling.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: 12 ft x 20 ft)			
1. Tamarix sp.	75	Y	FAC
2.			
3.			
4.			
5.			
	75 = Total Cover		
Herb Stratum (Plot size: 5' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 100 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 1 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species 75	x 3 = 225
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: 75 (A)	225 (B)

Prevalence Index = B/A = 3.0

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

✓ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

SOIL

Sampling Point: S-17

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 18	7.5 YR 4/3	100					Sa	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Morton Bay Geothermal Project City/County: Imperial County Sampling Date: 3/12/22

Applicant/Owner: Morton Bay Geothermal LLC State: CA Sampling Point: S-18

Investigator(s): R. Newton, M. King Section, Township, Range: S22 T11S R13E

Landform (hillslope, terrace, etc.): impounded lake Local relief (concave, convex, none): concave Slope (%): 0

Subregion (LRR): D - Interior Deserts Lat: 33.201662 Long: -115.597179 Datum: WGS 84

Soil Map Unit Name: Fluvaquents, saline NWI classification: L1UBHx

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No ✓ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

NWI-mapped excavated impounded lake L1UBHx-1. The Antecedent Precipitation Tool determined the area was drier than normal at the time of sampling.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: 15' radius)			
1. Allenrolfea occidentalis	20	Y	FACW
2.			
3.			
4.			
5.			
	20 = Total Cover		
Herb Stratum (Plot size: 5' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 100 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species 20	x 2 =	40
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals: 20 (A)		40 (B)

Prevalence Index = B/A = 2.0

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

✓ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

SOIL

Sampling Point: S-18

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No _____

Remarks:

Soils not investigated.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ✓ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ✓ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ✓ No _____ Depth (inches): > 6 feet

Water Table Present? Yes _____ No _____ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No _____ Depth (inches): _____

Wetland Hydrology Present? Yes ✓ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Area is impounded.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Morton Bay Geothermal Project City/County: Imperial County Sampling Date: 3/12/22

Applicant/Owner: Morton Bay Geothermal LLC State: CA Sampling Point: S-19

Investigator(s): R. Newton, M. King Section, Township, Range: S23 T11S R13E

Landform (hillslope, terrace, etc.): abandoned industrial pond Local relief (concave, convex, none): none Slope (%): 0

Subregion (LRR): D - Interior Deserts Lat: 33.201999 Long: -115.587884 Datum: WGS 84

Soil Map Unit Name: Meloland very fine sandy loam, wet NWI classification: PUSCx

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No ✓ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

Area mapped by NHD as an intermittent reservoir and NWI as PUSCx. This sample point is representative of a series of industrial ponds likely abandoned when the Salton Sea began receding. Hydric soils and surface soil cracks are likely relictual. The Antecedent Precipitation Tool determined the area was drier than normal at the time of sampling.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: 15' radius)			
1. Allenrolfea occidentalis	10	Y	FACW
2.			
3.			
4.			
5.			
	10 = Total Cover		
Herb Stratum (Plot size: 5' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 100 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species 10	x 2 =	20
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals: 10 (A)		20 (B)

Prevalence Index = B/A = 2.0

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

✓ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

SOIL

Sampling Point: S-19

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0 - 3	7.5 YR 3/2	100					SiCl	
3 - 17	7.5 YR 4/2	95	5 YR 4/6	5	C	M	Sa	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ✓ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ **No** _____

Remarks:

Hydric soils likely relictual from before the Salton Sea receded.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ✓ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ✓ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes ✓ **No** _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Surface soil cracks are likely relictual from when this area was inundated.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Morton Bay Geothermal Project City/County: Imperial County Sampling Date: 3/12/22

Applicant/Owner: Morton Bay Geothermal LLC State: CA Sampling Point: S-20

Investigator(s): R. Newton, M. King Section, Township, Range: S24 T11S R13E

Landform (hillslope, terrace, etc.): abandoned industrial pond Local relief (concave, convex, none): none Slope (%): 0

Subregion (LRR): D - Interior Deserts Lat: 33.198964 Long: -115.576737 Datum: WGS 84

Soil Map Unit Name: Imperial silty clay, wet NWI classification: PUSCx

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No ✓ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

Area mapped by NHD as an intermittent reservoir and NWI as PUSCx but no recent hydrology indicators are present. This sample point is representative of a series of industrial ponds likely abandoned when the Salton Sea began receding. The Antecedent Precipitation Tool determined the area was drier than normal at the time of sampling.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: 15' radius)			
1. Allenrolfea occidentalis	20	Y	FACW
2.			
3.			
4.			
5.			
	20 = Total Cover		
Herb Stratum (Plot size: 5' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 100 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species 20	x 2 =	40
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals: 20 (A)		40 (B)

Prevalence Index = B/A = 2.0

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

✓ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

SOIL

Sampling Point: S-20

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 18	7.5 YR 4/3	100					SaCl	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** ✓

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ✓ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ✓ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? **Yes** ✓ **No** _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Surface soil cracks are likely relictual from when this area was previously inundated.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Morton Bay Geothermal Project City/County: Imperial County Sampling Date: 3/12/22

Applicant/Owner: Morton Bay Geothermal LLC State: CA Sampling Point: S-21

Investigator(s): R. Newton, M. King Section, Township, Range: S24 T11S R13E

Landform (hillslope, terrace, etc.): excavated pond Local relief (concave, convex, none): concave Slope (%): 0-3

Subregion (LRR): D - Interior Deserts Lat: 33.198964 Long: -115.562879 Datum: WGS 84

Soil Map Unit Name: Imperial silty clay, wet NWI classification: PUBFx

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No ✓ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✓	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

NWI-mapped semipermanently flooded palustrine excavation PUBFx-1, managed for waterfowl hunting. The Antecedent Precipitation Tool determined the area was drier than normal at the time of sampling.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: 15' radius)			
1. .			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 5' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 100 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: _____ (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = 0

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✓

Remarks:

No vegetation rooted in the pond.

SOIL

Sampling Point: S-21

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No _____

Remarks:

Soils not investigated.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ✓ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ✓ No _____ Depth (inches): ~2 feet

Water Table Present? Yes _____ No _____ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No _____ Depth (inches): _____

Wetland Hydrology Present? Yes ✓ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Morton Bay Geothermal Project City/County: Imperial County Sampling Date: 3/12/22

Applicant/Owner: Morton Bay Geothermal LLC State: CA Sampling Point: S-22

Investigator(s): R. Newton, M. King Section, Township, Range: S19 T11S 14E

Landform (hillslope, terrace, etc.): shallow excavation Local relief (concave, convex, none): none Slope (%): 0

Subregion (LRR): D - Interior Deserts Lat: 33.198116 Long: -115.560882 Datum: WGS 84

Soil Map Unit Name: Imperial silty clay, wet NWI classification: PUSCx

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No ✓ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

Area mapped by NWI as a seasonally flooded excavated pond and by NHD as an intermittent reservoir. This area is managed for waterfowl hunting and lacks hydric soil indicators. The Antecedent Precipitation Tool determined the area was drier than normal at the time of sampling.

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: 5' radius)			
1. Rumex fueginus	20	Y	FACW
2. Melilotus indicus	8	Y	FACU
3. Portulaca oleracea	5	N	FAC
4.			
5.			
6.			
7.			
8.			
	33 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 67 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species _____	x 1 =	_____
FACW species 20	x 2 =	40
FAC species 5	x 3 =	15
FACU species 8	x 4 =	32
UPL species _____	x 5 =	_____
Column Totals: 33 (A)		87 (B)

Prevalence Index = B/A = 2.6

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

✓ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

SOIL

Sampling Point: S-22

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0 - 4	7.5 YR 4/3	95	7.5 YR 4/2	5	C	M	SiCl	
4 - 18	7.5 YR 4/3	100					SiCl	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** ✓

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ✓ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ✓ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ✓ No _____ Depth (inches): 2

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? **Yes** ✓ **No** _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Surface water was present earlier during the delineation. The area appears to be irrgated over the winter for waterfowl.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Morton Bay Geothermal Project City/County: Imperial County Sampling Date: 3/12/22

Applicant/Owner: Morton Bay Geothermal LLC State: CA Sampling Point: S-23

Investigator(s): R. Newton, M. King Section, Township, Range: S19 T11S R14E

Landform (hillslope, terrace, etc.): shallow excavation Local relief (concave, convex, none): none Slope (%): 0

Subregion (LRR): D - Interior Deserts Lat: 33.196251 Long: -115.562361 Datum: WGS 84

Soil Map Unit Name: Imperial silty clay, wet NWI classification: PUSCx

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No ✓ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✓	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

Area mapped by NWI as a seasonally flooded excavated pond and by NHD as an intermittent reservoir. This area is managed for waterfowl hunting and lacks hydric soil indicators. The Antecedent Precipitation Tool determined the area was drier than normal at the time of sampling.

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: 5' radius)			
1. Phalaris canariensis	12	Y	FACU
2. Rumex fueginus	8	Y	FACW
3.			
4.			
5.			
6.			
7.			
8.			
	20 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 80 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species _____	x 1 =	_____
FACW species 8	x 2 =	16
FAC species _____	x 3 =	_____
FACU species 12	x 4 =	48
UPL species _____	x 5 =	_____
Column Totals: 20 (A)		64 (B)

Prevalence Index = B/A = 3.2

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✓

Remarks:

SOIL

Sampling Point: S-23

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0 - 5	7.5 YR 4/3	95	7.5 YR 4/2	5	C	M	SiCl	
5 - 18	7.5 YR 4/3	100					SiCl	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** ✓

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ✓ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ✓ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ✓ No _____ Depth (inches): 2

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? **Yes** ✓ **No** _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Morton Bay Geothermal Project City/County: Imperial County Sampling Date: 3/12/22

Applicant/Owner: Morton Bay Geothermal LLC State: CA Sampling Point: S-24

Investigator(s): R. Newton, M. King Section, Township, Range: S19 T11S R14E

Landform (hillslope, terrace, etc.): shallow excavation Local relief (concave, convex, none): none Slope (%): 0

Subregion (LRR): D - Interior Deserts Lat: 33.193044 Long: -115.562314 Datum: WGS 84

Soil Map Unit Name: Imperial silty clay, wet NWI classification: PUSCx

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No ✓ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✓	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

Area mapped by NWI as a seasonally flooded excavated pond and by NHD as an intermittent reservoir. This area is managed for waterfowl hunting and lacks hydric soil indicators. The Antecedent Precipitation Tool determined the area was drier than normal at the time of sampling.

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: 15' radius)			
1. Atriplex lentiformis	10	Y	FACU
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: 5' radius)			
1. Melilotus indicus	10	Y	FACU
2. Rumex obtusifolius	12	Y	FAC
3.			
4.			
5.			
6.			
7.			
8.			
	22 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 78 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species _____	x 1 =	_____
FACW species _____	x 2 =	_____
FAC species 12	x 3 =	36
FACU species 20	x 4 =	80
UPL species _____	x 5 =	_____
Column Totals: 32 (A)		116 (B)

Prevalence Index = B/A = 3.6

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✓

Remarks:

SOIL

Sampling Point: S-24

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0 - 4	7.5 YR 4/3	95	7.5 YR 4.2	5	C	M	SiCl	
4 - 18	7.5 YR 4/3	100					SiCl	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ✓ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes ✓ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Morton Bay Geothermal Project City/County: Imperial County Sampling Date: 3/12/22

Applicant/Owner: Morton Bay Geothermal LLC State: CA Sampling Point: S-25

Investigator(s): R. Newton, M. King Section, Township, Range: S23 T11S R13E

Landform (hillslope, terrace, etc.): shallow excavation Local relief (concave, convex, none): none Slope (%): 0

Subregion (LRR): D - Interior Deserts Lat: 33.202311 Long: -115.588074 Datum: WGS 84

Soil Map Unit Name: Imperial silty clay, wet NWI classification: L2UBFx/L2USCx

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No ✓ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology ✓ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes _____	No ✓	

Remarks:

Area mapped by NWI as excavated lakes. Construction of the O-N Drain Connector severed hydrologic connectivity between this area and Morton Bay. Mitigation is required on the part of Imperial Irrigation District (see EPA Docket No. CWA-309(a)-22-002). The Antecedent Precipitation Tool determined the area was drier than normal at the time of sampling.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: 15' radius)			
1. Allenrolfea occidentalis	45	Y	FACW
2.			
3.			
4.			
5.			
	45 = Total Cover		
Herb Stratum (Plot size: 5' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 100 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species 45	x 2 = 90
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: 45 (A)	90 (B)

Prevalence Index = B/A = 2.0

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

✓ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

Dead Typha domingensis

SOIL

Sampling Point: S-25

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0 - 18	2.5 y 6/2	75	2.5 YR 3/4	25	C	PL	Sa	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ✓ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ **No** _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ✓ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ✓ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ✓ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes ✓ **No** _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

The O-N Drain Connector Project was constructed in 2019, and severed hydrologic connectivity with Morton Bay. The EPA has taken jurisdiction over this area.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Morton Bay Geothermal Project City/County: Imperial County Sampling Date: 3/12/22

Applicant/Owner: Morton Bay Geothermal LLC State: CA Sampling Point: S-26

Investigator(s): R. Newton, M. King Section, Township, Range: S14 T11S R13E

Landform (hillslope, terrace, etc.): shallow excavation Local relief (concave, convex, none): none Slope (%): 0

Subregion (LRR): D - Interior Deserts Lat: 33.206209 Long: -115.584293 Datum: WGS 84

Soil Map Unit Name: Imperial silty clay, wet NWI classification: L2UBFx/L2USCx

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No ✓ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✓	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

Semipermanently flooded palustrine excavation PUBFx-2. The Antecedent Precipitation Tool determined the area was drier than normal at the time of sampling.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 5' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum 100 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: _____ (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals: (A)		(B)

Prevalence Index = B/A = 0

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✓

Remarks:

SOIL

Sampling Point: S-26

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No _____

Remarks:

Soils not investigated

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ✓ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ✓ No _____ Depth (inches): ~18

Water Table Present? Yes _____ No _____ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No _____ Depth (inches): _____

Wetland Hydrology Present? Yes ✓ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Morton Bay Geothermal Project City/County: Imperial County Sampling Date: 3/12/22

Applicant/Owner: Morton Bay Geothermal LLC State: CA Sampling Point: S-27

Investigator(s): R. Newton, M. King Section, Township, Range: S14 T11S R13E

Landform (hillslope, terrace, etc.): shallow excavation Local relief (concave, convex, none): minor concave Slope (%): 0-2

Subregion (LRR): D - Interior Deserts Lat: 33.212676 Long: -115.583677 Datum: WGS 84

Soil Map Unit Name: Imperial silty clay, wet NWI classification: L2USCx/L2UBFx

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No ✓ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

Palustrine scrub-shrub wetland PSS-3 in area mapped by NWI as excavated lakes. Representative sample point taken outside the study area. The Antecedent Precipitation Tool determined the area was drier than normal at the time of sampling.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: 15' radius)			
1. Tamarix sp.	65	Y	FAC
2.			
3.			
4.			
5.			
	65 = Total Cover		
Herb Stratum (Plot size: 5' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 100 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species _____	x 1 =	_____
FACW species _____	x 2 =	_____
FAC species 65	x 3 =	195
FACU species _____	x 4 =	_____
UPL species _____	x 5 =	_____
Column Totals: 65 (A)		195 (B)

Prevalence Index = B/A = 3.0

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

✓ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

SOIL

Sampling Point: S-27

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 9	5 Y 6/2	80	5 YR 4/6	20	C	M	Cl	
9 - 18	5 Y 5/2	40					Cl	
	5 Y 6/2	40	5 YR 4/6	20	C	M	Cl	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ **No** _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ✓ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ✓ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): _____

Water Table Present? Yes ✓ No ___ Depth (inches): 9

Saturation Present? (includes capillary fringe) Yes ✓ No ___ Depth (inches): 9

Wetland Hydrology Present? Yes ✓ **No** _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Morton Bay Geothermal Project City/County: Imperial County Sampling Date: 3/12/22

Applicant/Owner: Morton Bay Geothermal LLC State: CA Sampling Point: S-28

Investigator(s): R. Newton, M. King Section, Township, Range: S14 T11S R13E

Landform (hillslope, terrace, etc.): toe of road slope Local relief (concave, convex, none): none Slope (%): 0-2

Subregion (LRR): D - Interior Deserts Lat: 33.212551 Long: -115.583054 Datum: WGS 84

Soil Map Unit Name: Imperial silty clay, wet NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No ✓ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✓	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes _____	No ✓	

Remarks:

Paired upland point for S-27. Representative sample point taken outside the study area. The Antecedent Precipitation Tool determined the area was drier than normal at the time of sampling.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: 5' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 100 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: _____ (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals: (A)		(B)

Prevalence Index = B/A = 0

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✓

Remarks:

SOIL

Sampling Point: S-28

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 3	5 Y 6/2	100					SaCl	
3	shovel refusal							riprap

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Morton Bay Geothermal Project City/County: Imperial County Sampling Date: 3/12/22

Applicant/Owner: Morton Bay Geothermal LLC State: CA Sampling Point: S-29

Investigator(s): R. Newton, M. King Section, Township, Range: S14 T11S R13E

Landform (hillslope, terrace, etc.): shallow excavation Local relief (concave, convex, none): concave Slope (%): 0-3

Subregion (LRR): D - Interior Deserts Lat: 33.21248 Long: -115.587016 Datum: WGS 84

Soil Map Unit Name: Fluvaquents, saline NWI classification: L2USCx

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No ✓ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✓	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

Seasonally flooded palustrine salt flat PUBC-2. Area is mapped by NWI as excavated lake, but surface water lacks sufficient coverage and depth. The Antecedent Precipitation Tool determined the area was drier than normal at the time of sampling.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: 5' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 100 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: _____ (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals: (A)		(B)

Prevalence Index = B/A = 0

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✓

Remarks:

SOIL

Sampling Point: S-29

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0 - 16	5 Y 6/2	80	5 YR 4/6	20	C	M	Cl	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes ✓ **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ✓ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ✓ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ✓ No ___ Depth (inches): ~ 5

Water Table Present? Yes ✓ No ___ Depth (inches): 1

Saturation Present? (includes capillary fringe) Yes ✓ No ___ Depth (inches): surface

Wetland Hydrology Present? Yes ✓ **No** ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Surface water covers approximately 25% of the area.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Morton Bay Geothermal Project City/County: Imperial County Sampling Date: 3/12/22

Applicant/Owner: Morton Bay Geothermal LLC State: CA Sampling Point: S-30

Investigator(s): R. Newton, M. King Section, Township, Range: S14 T11S R13E

Landform (hillslope, terrace, etc.): shallow excavataion Local relief (concave, convex, none): none Slope (%): 0

Subregion (LRR): D - Interior Deserts Lat: 33.212498 Long: -115.586996 Datum: WGS 84

Soil Map Unit Name: Fluvaquents, saline NWI classification: L2USCx

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No ✓ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✓	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes _____	No ✓	

Remarks:

Area mapped by NWI as excavated lake and by NHD as an intermittent reservoir but lacking hydrology indicators. The Antecedent Precipitation Tool determined the area was drier than normal at the time of sampling.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: 5' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 100 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: _____ (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals: (A)		(B)

Prevalence Index = B/A = 0

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✓

Remarks:

SOIL

Sampling Point: S-30

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0 - 16	5 Y 6/2	80	5 YR 4/6	20	C	M	Cl	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ **No** _____

Remarks:

Hydric soils likely relictual from when the Salton Sea had a higher shoreline.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes _____ **No** ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: