19—NATURAL RESOURCES

REF NO	DESCRIPTION	SYMBOL	CARTOGRAPHIC SPECIFICATIONS*	NOTES ON USAGE*
	19.1—Veins and mineralized ar	eas; mineral resource are	eas; metamorphic facies boundary	
19.1.1	Vein, veinlet, or mineralized stringer—Identity and existence certain, location accurate		lineweight .25 mm color 100% red → 8.0 mm ← ← H-8	May also be shown in black or other colors.
19.1.2	Vein, veinlet, or mineralized stringer—Identity or existence questionable, location accurate	••?••?••	* ► .75 mm dot diameter .75 mm; spacing 4.5 mm	
19.1.3	Vein, veinlet, or mineralized stringer—Identity and existence certain, location approximate		3.625 mm → k	
19.1.4	Vein, veinlet, or mineralized stringer—Identity or existence questionable, location approximate	→ ~? → ? → +	→ → ? → → - → ← → ← .75 mm .75 mm	
19.1.5	Vein, veinlet, or mineralized stringer—Identity and existence certain, location concealed		.5 mm .75 mm 게논 게논	
19.1.6	Vein, veinlet, or mineralized stringer—Identity or existence questionable, location concealed		.75 mm .75 mm	
19.1.7	Vein, veinlet, or mineralized stringer—Showing type of mineral occurrence	Cu	Cu ~ H-8 (100% black)	
19.1.8	Inclined vein, veinlet, or mineralized stringer (1st option)—Showing dip value and direction	35	tick length 35 HI-6 (100% black) 1.75 mm;	Place tick, arrow, or other line-symbol decoration where observation
19.1.9	Inclined vein, veinlet, or mineralized stringer (2nd option)—Showing dip value and direction	15 †	tick length 15 ± .875 mm 1.375 mm; 1.375 mm 1.3875 mm 1.38	was made. Add arrowhead or '90' to ticks showing dip if
19.1.10	Vertical or near-vertical vein, veinlet, or mineralized stringer (1st option)		tick length 2.5 mm; lineweight leneweight 2.2 mm	necessary for clarity.
19.1.11	Vertical or near-vertical vein, veinlet, or mineralized stringer (2nd option)	90	90 ← HI-6 (100% black)	
19.1.12	Small, minor inclined vein, veinlet, or mineralized stringer—Showing strike and dip	70	HI-6 (100% black) 1.25 mm To line weight .25 mm; line color 100% red	May also be shown in black or other colors.
19.1.13	Small, minor vertical or near-vertical vein, veinlet, or mineralized stringer—Showing strike	+	2.5 mm +	
19.1.14	Zone of mineralized or altered rock (1st option)		pattern 405-R (at 45°)	Add labels to show specific types of alteration. May be used alone or
19.1.15	Zone of mineralized or altered rock (2nd option)		pattern 405-R in 50% red (at 45°)	may overprint other mapped units. May also be shown in
19.1.16	Zone of mineralized or altered rock, showing high level of mineralization		pattern 119-R	black or other colors.
19.1.17	Zone of mineralized or altered rock, showing low level of mineralization		pattern 117-R	
19.1.18	Area of identified resources		lineweight .5 mm color 100% red	Usually reserved for use on special-purpose maps, not on general-
19.1.19	Area of high mineral resource potential	H	line weight 3 mm line and text color 100% red pattern 427-R in 50% red	purpose geologic maps. Generally shown in red, but may also be shown
19.1.20	Area of moderate mineral resource potential	M	lineweight .3 mm H-12 pattern 229-R (at 45°) in 50% red	in black or other colors.
19.1.21	Area of low mineral resource potential	L	lineweight .2 mm L H-10	
19.1.22	Area considered to have mineral resource potential but not evaluated, mostly because of inadequate data	(N)	lineweight .2 mm H-10 dash 1.75 mm; space .5 mm	
19.1.23	Metamorphic facies boundary—Showing approximate boundary between diagnostic mineral assemblages	Greenschist Amphibolite	H-8 Greenschist diameter line and text color 100% red Amphibolite spacing 5 mm	May also be shown in black or other colors.

			· · · · · · · · · · · · · · · · · · ·			
REF NO	DESCRIPTION	SYMBOL	CARTOGRAPHIC SPECIFICATIONS*	NOTES ON USAGE*		
	19.2—Areas of extensively disturbed ground; surface workings; subsurface workings projected to surface					
19.2.1	Graded area—Extensive amount of mapped geologic unit has been removed		lineweight 2 mm pattern 226-R (at 45°)	Patterns should overlay other mapped units. Generally shown in		
19.2.2	Strip mine (1st option)		lineweight .3 mm pattern 226-K (at 45°)	black or red, but may also be shown in brown or other colors.		
19.2.3	Strip mine (2nd option)	W. En	pattern 419-R in 50% red			
19.2.4	Artificial fill—Earth materials	af	lineweight .15 mm af 20% black	Show as separately mapped units. Generally shown in		
19.2.5	Artificial fill—Human-generated refuse (landfill)	afr	lineweight .15 mm Aft Pattern 226-R (at 45°)	black or red, but may also be shown in other colors.		
19.2.6	Tailings		lineweights .125 mm draft as shown	Symbols should overlay other mapped units. Generally shown in red		
19.2.7	Mine dump (1st option)		all lineweights .125 mm dash length and spacing may vary draft as shown	or black, but may also be shown in brown or other colors.		
19.2.8	Mine dump (2nd option)		all lineweights .125 mm dash length and spacing may vary draft as shown			
19.2.9	Mine dump bench	ппппппппппппппппппппппппппппппппппппппп	.75 mm ≯l ← 			
19.2.10	Subsurface workings, projected to surface (1st option)		color lineweights .2 mm 100% red spacing may vary	Different symbols may be used to show differ- ent levels of workings.		
19.2.11	Subsurface workings, projected to surface (2nd option)		dash 3.0 mm; spacing .5 mm	Symbols should overlay other mapped units. Generally shown in red,		
19.2.12	Subsurface workings, projected to surface (3rd option)		dash 1.5 mm; spacing .5 mm	but may also be shown in black or other colors.		
19.2.13	Subsurface workings, projected to surface (4th option)	7	dash .5 mm; spacing .5 mm			
19.2.14	Subsurface workings, projected to surface (5th option)		long dash 2.5 mm; short dashes .5 mm; spacing .5 mm			
19.2.15	Subsurface workings, projected to surface (6th option)		long dash 4.0 mm; short dash .5 mm; spacing .5 mm			

REF NO	DESCRIPTION	SYMBOL	CARTOGRAPHIC SPECIFICATIONS*	NOTES ON USAGE*
	19.3—Mini	ng and mineral explorati	on (at surface)	
19.3.1	Prospect (pit or small open cut)	Х	lineweight .2 mm X 1.75 mm	
19.3.2	Sand, gravel, clay, or placer pit	×	3.125 mm \checkmark all lineweights .15 mm 60°/ \nearrow 7 mm	
19.3.3	Abandoned sand, gravel, clay, or placer pit	×	→ ← 1.5 mm all lineweights .15 mm	
19.3.4	Open pit, quarry, or glory hole	*	pick thickness 25 mm; radius 1.5 mm \(\)	
19.3.5	Abandoned open pit, quarry, or glory hole	*	all lineweights .15 mm	
19.3.6	Open pit or quarry (mapped to scale)		all lineweights .25 mm hachure height .6 mm; spacing 1.5 mm	
19.3.7	Trench (generalized trace)	~	1.5 mm $\frac{\psi}{\hbar}$ length may vary all lineweights .25 mm	
19.3.8	Trench (drawn to scale)		all lineweights .25 mm hachure height .6 mm; spacing 1.5 mm	
19.3.9	Adit or tunnel entrance (1st option)	>	all lineweights .175 mm 90° >	Long line points in direction of adit or tunnel entrance at surface.
19.3.10	Approximately located adit or tunnel entrance (1st option)	>	→ ← 1.0 mm > → ← .25 mm	Map position of adit or tunnel entrance is at intersection of long line and two short lines.
19.3.11	Destroyed adit or tunnel entrance (1st option)	>	→ \ 25 mm > → \ 25 mm	and two short lines.
19.3.12	Abandoned or inaccessible adit or tunnel entrance (1st option)	> +-	all lineweights .175 mm $\rightarrow + \frac{\psi}{\uparrow}$ 1.25 mm 1.75 mm $\rightarrow \mathbf{k} $	
19.3.13	Adit or tunnel entrance (1st option)—Showing angle of inclination (negative value indicates downward slope)	- -40	>—-40 [←] HI-6	Angle of inclination may be added to any adit or tunnel entrance symbol.
19.3.14	Adit or tunnel entrance (2nd option)		all 90° →	Long line points in direction of adit or tunnel entrance at surface.
19.3.15	Approximately located adit or tunnel entrance (2nd option)	\$	→ <- 1.0 mm \$ → <25 mm	Map position of adit or tunnel entrance is at intersection of long line
19.3.16	Destroyed adit or tunnel entrance (2nd option)	\$	→\ - .25 mm ↓ →\ - .25 mm	and two short lines.
19.3.17	Abandoned or inaccessible adit or tunnel entrance (2nd option)	\$ +-	all lineweights .175 mm $\Leftrightarrow +\frac{\psi}{\pi}$ 1.25 mm 1.75 mm $\Rightarrow \mathbf{k} $	
19.3.18	Adit or tunnel entrance (2nd option)—Showing angle of inclination (negative value indicates downward slope)	∻ —-50	↓—-50 HI-6	Angle of inclination may be added to any adit or tunnel entrance symbol.
19.3.19	Portal		all lineweights radius .75 mm .175 mm 3.5 mm 1.5 mm	Long lines point in direction of portal entry at surface.
19.3.20	Approximately located portal	<u>}</u>	→ ← 1.0 mm → ← 2.5 mm	Map position of portal entry is between the two lines, at the position
19.3.21	Destroyed portal	<u> </u>	>\\-25 mm \ / >\\-25 mm	where the short curved lines intersect the long lines.
19.3.22	Abandoned or inaccessible portal	#	all lineweights → k-1.75 mm	
19.3.23	Portal and open cut))	all lineweights .175 mm radius .75 mm tick length .5 mm	Open cut may be added to any portal symbol.
19.3.24	Portal—Showing angle of inclination (negative value indicates downward slope)	<u>_</u> -30	∑-30 ← HI-6	Angle of inclination may be added to any portal symbol.

			(continued)	
REF NO	DESCRIPTION	SYMBOL	CARTOGRAPHIC SPECIFICATIONS*	NOTES ON USAGE*
	19.3—Mining and	d mineral exploration (at	surface) (continued)	
19.3.25	Drill hole for mineral exploration	0	lineweight .175 mm Odiameter 1.5 mm	
19.3.26	Drill hole for mineral exploration—No geologic data available	O ND	o ^{ND ← H-6}	
19.3.27	Drill hole for mineral exploration—Showing name and number	OPAHUTE 2	OPAHUTE 2 4-7	
19.3.28	Drill hole for mineral exploration—Showing type (DDH, diamond drill hole)	^{DDH} O	HI-6 DDH	
19.3.29	Drill hole for exploration of low-grade ore	ф	all lineweights .175 mm φ $\frac{\psi}{4.0 \text{ mm}}$	
19.3.30	Drill hole for exploration of high-grade ore	•		
19.3.31	Inclined drill hole for mineral exploration—Showing location of collar (circle) and projected trace (dashed line) and bottom (T) of drill hole	0	all lineweights \Rightarrow k 1.0 mm \bigcirc 1.75 mm \bigcirc \bigcirc \rightarrow k 1.5 mm length may vary \Rightarrow k 5.5 mm	Projected trace of drill hole, angle of inclination, surface altitude,
19.3.32	Inclined drill hole for mineral exploration—Showing angle of inclination (negative value indicates downward slope)	O -65 ⊣	O ⁻⁶⁵ ∠ HI-6	and total depth may be added to any drill hole symbol.
19.3.33	Inclined drill hole for mineral exploration—Showing surface altitude of collar (in meters)	²⁵⁰⁰ O	HI-6 -2500 O	
19.3.34	Inclined drill hole for mineral exploration—Showing total depth of drill hole (in meters)	O ⊤D 1000	O1 TD 1000 HI-6	
19.3.35	Vertical mine shaft, as shown on smaller scale or general-purpose maps		lineweight .175 mm	
19.3.36	Multiple vertical mine shafts, as shown on smaller scale or general-purpose maps			
19.3.37	Abandoned or inaccessible vertical mine shaft, as shown on smaller scale or general-purpose maps	₽A	■A ^{←H-7}	
19.3.38	Inclined mine shaft, as shown on smaller scale or general-purpose maps—Showing direction of inclination	₽	all lineweights .175 mm $\P \stackrel{\psi}{\xrightarrow{\Lambda}}$ 1.0 mm	
19.3.39	Inclined mine shaft, as shown on smaller scale or general-purpose maps—Showing angle of inclination (negative value indicates downward slope)	₽ ₋₂₅	₽ ₋₂₅ ← HI-6	

^{*}For more information, see general guidelines on pages A-i to A-v.

			<u>'</u>	
REF NO	DESCRIPTION	SYMBOL	CARTOGRAPHIC SPECIFICATIONS*	NOTES ON USAGE*
	19.4-		vorkings	
			size may vary	
19.4.1	Vertical mine shaft at surface (drawn to scale), as shown on subsurface exploration maps		lineweight .175 mm	
19.4.2	Inclined mine shaft at surface (drawn to scale), as shown on subsurface exploration maps—Showing direction of inclination		all lineweights .175 mm lengths may vary	
19.4.3	Inclined mine shaft at surface (drawn to scale), as shown on subsurface exploration maps—Showing angle of inclination (negative value indicates downward slope)	-30 VIII	-30 ← HI-6	
19.4.4	Mine shaft, above and below level (drawn to scale), as shown on subsurface exploration maps	×	size may vary all lineweights .175 mm	
19.4.5	Bottom of mine shaft (drawn to scale), as shown on subsurface exploration maps		size may vary all lineweights .175 mm	
19.4.6	Winze or head of raise (drawn to scale), as shown on subsurface exploration maps		size may vary all lineweights ☐ .175 mm	
19.4.7	Raise or winze extending through level (drawn to scale), as shown on subsurface exploration maps	×	size may vary all lineweights .175 mm	
19.4.8	Raise or foot of winze (drawn to scale), as shown on subsurface exploration maps		size may vary all lineweights ⊠ .175 mm	
19.4.9	Crosscut tunnel or intersection of workings (drawn to scale), as shown on subsurface exploration maps		radius 1.25 mm size may vary lineweight .175 mm	
19.4.10	Workings (drawn to scale), as shown on subsurface exploration maps		spacing may vary \(\sigma\) lineweights .175 mm	
19.4.11	Caved or otherwise inaccessible workings (drawn to scale), as shown on subsurface exploration maps	 	all lineweights .175 mm spacing length of crossbar dash 1.5 mm; spacing .5 mm	
19.4.12	Inclined workings, as shown on subsurface exploration maps (drawn to scale)—Chevrons point downslope (multiple chevrons indicate steeper slope)	<u> </u>	all lineweights .175 mm spacing 7 90° may vary	
19.4.13	Ore chute (drawn to scale), as shown on subsurface exploration maps	<u>———</u>	1.5 mm → ← spacing →	
19.4.14	Lagging or cribbing along drift (drawn to scale), as shown on subsurface exploration maps	000000	all lineweights .15 mm spacing may vary - 000000 \frac{\psi}{000000000000000000000000000000000000	
19.4.15	Elevation of roof or back, as shown on subsurface exploration maps	2801'	1.0 mm √	
19.4.16	Elevation of floor or sill, as shown on subsurface exploration maps		$1.0 \text{ mm} \frac{\psi}{\uparrow} \frac{2809'}{60^{\lambda}}$	
19.4.17	Stoped area (drawn to scale), as shown on subsurface exploration maps (section view)		all lineweights .15 mm dash 1.5 mm; spacing .5 mm	
19.4.18	Inferred stoped area (drawn to scale), as shown on subsurface exploration maps (section view)		pattern 226-K (at 45°) dash .3 mm; spacing .3 mm	

DEE NO		CYMPOL	,	NOTES ON LISACE*
REF NO	DESCRIPTION	SYMBOL	CARTOGRAPHIC SPECIFICATIONS*	NOTES ON USAGE*
	19.5—Oii and gas fields; w	ells drilled for nydrocarb	on exploration or exploitation	D-H
19.5.1	Oil field—Extent defined		fill color 50% green line color 100% green	Patterned areas (extent defined) should be shown as separately
19.5.2	Oil field—Extent not yet defined		lineweight .2 mm dash .5 mm; line color spacing .5 mm 50% green	mapped units. Outlined areas (extent not yet defined) should
19.5.3	Gas field—Extent defined		fill color 50% red line color 100% red	overlay other mapped units. Generally shown in red and (or) green, but may
19.5.4	Gas field—Extent not yet defined		lineweight .2 mm dash 2.0 mm; spacing .5 mm	also be shown in other colors or patterns.
19.5.5	Oil and gas field—Extent defined		lineweight .2 mm pattern 426 (at 45°)	
19.5.6	Oil and gas field—Extent not yet defined		lineweight .2 mm long dash 2.0 mm; short dash .5 mm; space .5 mm	
19.5.7	Core (nonspecific depth)	⊡	lineweight dot diameter .5 mm 2 mm ↑ 1.75 mm	May also be shown in other colors.
19.5.8	Shallow core	•	•	Use if both shallow and deep cores are shown on map.
19.5.9	Deep core	©	all lineweights .2 mm circle diameter 2.75 mm	May also be shown in other colors.
19.5.10	Drilling well or well location for hydrocarbon exploration or exploitation	0	lineweight .2 mm O diameter 1.5 mm	Name, number, and total depth may be add- ed to any type of well
19.5.11	Drill hole for hydrocarbon exploration or exploitation —No data available	O ND	o ^{ND ← H-6}	symbol. May also be shown in green (oil), red (gas), or
19.5.12	Drill hole for hydrocarbon exploration or exploitation —Showing name and number	SHELL 1-55	SHELL 1-55 ← H-7	other colors.
19.5.13	Drill hole for hydrocarbon exploration or exploitation —Showing total depth (in meters)	1000	HI-6 >1000 _O	
19.5.14	Inclined drill hole for hydrocarbon exploration or exploitation—Showing location of collar (circle) and projected trace (dashed line) and bottom (T) of drill hole	0	all lineweights .2 mm ∠2 mm length of trace may vary	Projected trace of drill hole, angle of inclina- tion, surface altitude,
19.5.15	Inclined drill hole for hydrocarbon exploration or exploitation—Showing angle of inclination	O -70	O ⁷⁰ HI-6	and total depth may be added to any type of well symbol.
19.5.16	Inclined drill hole for hydrocarbon exploration or exploitation—Showing surface altitude of collar (in meters)	⁷⁵ O	HI-6 > 75	May also be shown in green (oil), red (gas), or other colors.
19.5.17	Inclined drill hole for hydrocarbon exploration or exploitation—Showing total depth of drill hole (in meters)	O TD 650	O TD 650 HI-6	
19.5.18	Multiple wells drilled from single platform—Showing location of collar (open circle) on platform. Types of wells indicated at drill hole bottoms	O	•	Any type of well symbol may be shown at bottoms of drill holes.

19.5-Oil and gas fields; wells drilled for hydrocarbon exploration or exploitation (continued) 19.5.19 Dry hole (nonspecific depth) 19.5.20 Determine map unit at surface (Km) and at the following of the first of	REF NO		SYMBOL	CARTOGRAPHIC SPECIFICATIONS*	NOTES ON USAGE*
19.5.19 Dry hole (nonspecific depth)	REF NO				
19.5.19 Dly hole (nonspecific depth)		19.5—Oii and gas fields; wells d	rilled for nydrocarbon ex	· · ·	
Shallow dry hole Shallow dry	19.5.19	Dry hole (nonspecific depth)	¢	★ ◆	
Shallow dry hole	19.5.20	bottom of hole (Kd). Also showing altitude at sur-			
19.5.22 Deep dry hole	19.5.21	Shallow dry hole	¢		
19.5.23 Junked hole (nonspecific depth) 19.5.24 Shallow junked hole 19.5.25 Deep junked hole 19.5.26 Deep junked hole 19.5.27 Plugged and abandoned disposal well (nonspecific depth) 19.5.28 Shallow disposal well 19.5.29 Plugged and abandoned shallow disposal well 19.5.30 Deep disposal well 19.5.31 Plugged and abandoned deep disposal well 19.5.32 Salt-water disposal well (nonspecific depth) 2.0 mm	19.5.22	Deep dry hole	©	⊘	
19.5.24 Shallow junked hole	19.5.23	Junked hole (nonspecific depth)	¤	_	May also be shown in other colors.
19.5.25 Deep junked hole	19.5.24	Shallow junked hole	¤	¤	Use if both shallow and deep junked holes are shown on map.
19.5.26 Disposal well (nonspecific depth) 19.5.27 Plugged and abandoned disposal well (nonspecific depth) 19.5.28 Shallow disposal well 19.5.29 Plugged and abandoned shallow disposal well 19.5.30 Deep disposal well 19.5.31 Plugged and abandoned deep disposal well 19.5.32 Salt-water disposal well 19.5.33 Plugged and abandoned salt-water disposal well 19.5.34 Shallow salt-water disposal well 19.5.35 Plugged and abandoned shallow salt-water disposal well 19.5.36 Deep salt-water disposal well 19.5.37 Plugged and abandoned shallow salt-water disposal well 19.5.38 Deep salt-water disposal well 19.5.39 Plugged and abandoned shallow salt-water disposal well 19.5.30 Deep salt-water disposal well 19.5.31 Plugged and abandoned shallow salt-water disposal well 19.5.32 Plugged and abandoned shallow salt-water disposal well 19.5.35 Plugged and abandoned shallow salt-water disposal well 19.5.36 Deep salt-water disposal well 19.5.37 Plugged and abandoned deep salt-water disposal 2.0 mm	19.5.25	Deep junked hole	©	©	May also be shown in other colors.
Plugged and abandoned disposal well 19.5.28 Shallow disposal well 19.5.29 Plugged and abandoned shallow disposal well 19.5.30 Deep disposal well 19.5.31 Plugged and abandoned deep disposal well 19.5.32 Salt-water disposal well (nonspecific depth) 19.5.33 Plugged and abandoned salt-water disposal well 19.5.34 Shallow salt-water disposal well 19.5.35 Plugged and abandoned shallow salt-water disposal well 19.5.36 Deep salt-water disposal well 19.5.37 Plugged and abandoned shallow salt-water disposal well 19.5.38 Plugged and abandoned shallow salt-water disposal well 19.5.39 Plugged and abandoned shallow salt-water disposal well 19.5.30 Deep salt-water disposal well 19.5.31 Plugged and abandoned shallow salt-water disposal well 19.5.32 Plugged and abandoned shallow salt-water disposal well 19.5.35 Plugged and abandoned shallow salt-water disposal well 19.5.36 Deep salt-water disposal well 19.5.37 Plugged and abandoned deep salt-water disposal	19.5.26	Disposal well (nonspecific depth)	Δ		May also be shown in other colors.
19.5.28 Shallow disposal well	19.5.27		×	X \	
19.5.30 Deep disposal well 19.5.31 Plugged and abandoned deep disposal well 19.5.32 Salt-water disposal well (nonspecific depth) 19.5.33 Plugged and abandoned salt-water disposal well 19.5.34 Shallow salt-water disposal well 19.5.35 Deep salt-water disposal well 19.5.36 Deep salt-water disposal well 19.5.36 Deep salt-water disposal well 19.5.37 Plugged and abandoned deep salt-water disposal 19.5.38 Plugged and abandoned shallow salt-water disposal 19.5.39 Plugged and abandoned shallow salt-water disposal 19.5.30 Deep salt-water disposal well 19.5.31 Plugged and abandoned shallow salt-water disposal 19.5.32 Plugged and abandoned deep salt-water disposal	19.5.28	Shallow disposal well	Δ	Δ	Use if both shallow and deep disposal wells are shown on map.
19.5.30 Deep disposal well 19.5.31 Plugged and abandoned deep disposal well 19.5.32 Salt-water disposal well (nonspecific depth) 19.5.33 Plugged and abandoned salt-water disposal well (nonspecific depth) 19.5.34 Shallow salt-water disposal well 19.5.35 Plugged and abandoned shallow salt-water disposal well 19.5.36 Deep salt-water disposal well 19.5.37 Plugged and abandoned deep salt-water disposal 19.5.38 Plugged and abandoned shallow salt-water disposal 2.0 mm 4.0 mm May also be shown other colors. May also be shown deep salt-water disposal well 4.0 mm 4.0 mm Use if both shallow deep salt-water disposal well all lineweights .2 mm May also be shown other colors. A all lineweights .2 mm Outer circle diameter 2.75 mm other colors.	19.5.29	Plugged and abandoned shallow disposal well	×	×	May also be shown in other colors.
19.5.31 Plugged and abandoned deep disposal well 19.5.32 Salt-water disposal well (nonspecific depth) 2.0 mm	19.5.30	Deep disposal well	\times		
Salt-water disposal well (nonspecific depth) 19.5.32 Salt-water disposal well (nonspecific depth) 19.5.33 Plugged and abandoned salt-water disposal well (nonspecific depth) 19.5.34 Shallow salt-water disposal well 19.5.35 Plugged and abandoned shallow salt-water disposal well 19.5.36 Deep salt-water disposal well 19.5.37 Plugged and abandoned deep salt-water disposal 19.5.37 Plugged and abandoned deep salt-water disposal	19.5.31	Plugged and abandoned deep disposal well	Ø	∅ \	
19.5.33 Plugged and abandoned salt-water disposal well 19.5.34 Shallow salt-water disposal well 19.5.35 Plugged and abandoned shallow salt-water disposal well 19.5.36 Deep salt-water disposal well 19.5.37 Plugged and abandoned deep salt-water disposal 20.	19.5.32	Salt-water disposal well (nonspecific depth)	۵		May also be shown in other colors.
19.5.34 Shallow salt-water disposal well 19.5.35 Plugged and abandoned shallow salt-water disposal well 19.5.36 Deep salt-water disposal well Deep salt-water disposal well 19.5.36 Plugged and abandoned deep salt-water disposal 19.5.37 Plugged and abandoned deep salt-water disposal	19.5.33		×	A	
Plugged and abandoned shallow salt-water disposal well 19.5.35 Plugged and abandoned shallow salt-water disposal 19.5.36 Deep salt-water disposal well All lineweights .2 mm Outer circle diameter 2.75 mm all lineweights .2 mm All lineweights .2 mm	19.5.34	Shallow salt-water disposal well	۵	۵	Use if both shallow and deep salt-water disposal wells are shown on
19.5.36 Deep salt-water disposal well A outer circle diameter 2.75 mm Plugged and abandoned deep salt-water disposal A lineweights .2 mm	19.5.35		×	ø	May also be shown in
19537 Plugged and abandoned deep salt-water disposal	19.5.36	Deep salt-water disposal well	&	&	
weii ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~	19.5.37	Plugged and abandoned deep salt-water disposal well	Ø	all lineweights .2 mm	

^{*}For more information, see general guidelines on pages A-i to A-v.

REF NO	DESCRIPTION	SYMBOL	CARTOGRAPHIC SPECIFICATIONS*	NOTES ON USAGE*
	19.5—Oil and gas fields; wells d	rilled for hydrocarbon exp	ploration or exploitation (continued)
19.5.38	Oil seep	è	lineweight .2 mm 90° 90° $\frac{1.2}{\sqrt{90}}$ 90° $\frac{1.2}{\sqrt{90}}$ 90° $\frac{1.2}{\sqrt{90}}$ diameter 1.5 mm	May also be shown in green or other colors.
19.5.39	Oil show	•	lineweight .2 mm ← diameter 1.5 mm	
19.5.40	Oil well (nonspecific depth)	•	diameter 1.5 mm	
19.5.41	Suspended oil well (nonspecific depth)	•	lineweight.2 mm $\qquad \qquad \qquad$	
19.5.42	Plugged and abandoned oil well (nonspecific depth)	%	lineweight .2 mm ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓	
19.5.43	Shallow oil well	•	•	Use if both shallow and deep oil wells are shown on map.
19.5.44	Suspended shallow oil well	+	•	May also be shown in green or other colors.
19.5.45	Plugged and abandoned shallow oil well	#	×	
19.5.46	Deep oil well	•	lineweight .2 mm inner dot diameter 1.5 mm outer circle diameter 2.75 mm	
19.5.47	Suspended deep oil well	•	all lineweights .2 mm ψ 4.0 mm	
19.5.48	Plugged and abandoned deep oil well	Ø	all lineweights .2 mm	
19.5.49	Gas seep	ঠ	all lineweights .2 mm 90 $\sqrt{90}$ $\frac{\sqrt{1.2}}{\sqrt{1.2}}$ mm diameter 1.5 mm	May also be shown in red or other colors.
19.5.50	Gas show	❖	all lineweights $\frac{*}{*}$ $\stackrel{\cdot}{\sim}$.625 $\stackrel{\cdot}{\rightarrow}$ diameter 1.5 mm	
19.5.51	Gas well (nonspecific depth)	\$	all lineweights diameter 1.5 mm 2 mm	
19.5.52	Suspended gas well (nonspecific depth)	\$	all lineweights .2 mm	
19.5.53	Plugged and abandoned gas well (nonspecific depth)	<i>\$</i>	all lineweights .2 mm	
19.5.54	Shallow gas well	❖	\$	Use if both shallow and deep gas wells are shown on map.
19.5.55	Suspended shallow gas well	‡	*	May also be shown in red or other colors.
19.5.56	Plugged and abandoned shallow gas well	#	*	
19.5.57	Deep gas well	©	inner circle diameter 1.5 mm; outer circle diameter 2.75 mm diameter 2.75 mm all lineweights 2 mm	
19.5.58	Suspended deep gas well	\$	all lineweights .2 mm	
19.5.59	Plugged and abandoned deep gas well	Ø	all lineweights .2 mm	
19.5.60	Deep gas well, plugged back and producing shallow gas	\phi	all lineweights .2 mm $\qquad \qquad \qquad$	May also be shown in red or other colors.

		UNAL NESCUNCES		
REF NO		SYMBOL	CARTOGRAPHIC SPECIFICATIONS*	NOTES ON USAGE*
	19.5—Oil and gas fields; wells d	rilled for hydrocarbon exp	ploration or exploitation (continued)
19.5.61	Oil and gas seep	*	all lineweights .2 mm 90 \$\frac{\psi}{\pi}\$ \frac{\psi}{\pi}\$ 1.2 mm .625 mm diameter 1.5 mm	May also be shown in other colors.
19.5.62	Oil and gas show	*	all lineweights .2 mm .625 mm diameter 1.5 mm	
19.5.63	Oil and gas well (nonspecific depth)	*	all lineweights .2 mm # # All lineweights diameter 1.5 mm # All lineweights diameter 1.5 mm	
19.5.64	Suspended oil and gas well (nonspecific depth)	*	all lineweights .2 mm	
19.5.65	Plugged and abandoned oil and gas well (nonspecific depth)	*	all lineweights .2 mm	
19.5.66	Shallow oil and gas well	*	*	Use if both shallow and deep oil and gas wells are shown on map.
19.5.67	Suspended shallow oil and gas well	*	*	May also be shown in other colors.
19.5.68	Plugged and abandoned shallow oil and gas well	*	*	
19.5.69	Deep oil and gas well	₩	inner dot diameter 1.5 mm; outer circle diameter 2.75 mm	
19.5.70	Suspended deep oil and gas well	•	all lineweights .2 mm	
19.5.71	Plugged and abandoned deep oil and gas well	₩	all lineweights .2 mm **A.0 mm	
19.5.72	Condensate show	· ·	lineweight .2 mm G diameter 1.5 mm	May also be shown in other colors.
19.5.73	Condensate well (nonspecific depth)	•	lineweight .2 mm ◆ diameter 1.5 mm	
19.5.74	Suspended condensate well (nonspecific depth)	ф	lineweight .2 mm 4.0 mm	
19.5.75	Plugged and abandoned condensate well (nonspecific depth)	ø	lineweight 2 mm 4.0 mm	
19.5.76	Shallow condensate well	•	•	Use if both shallow and deep condensate wells are shown on map.
19.5.77	Suspended shallow condensate well	ф	•	May also be shown in other colors.
19.5.78	Plugged and abandoned shallow condensate well	ø	ø	
19.5.79	Deep condensate well	③	all lineweights .2 mm inner dot diameter 1.5 mm outer circle diameter 2.75 mm	
19.5.80	Suspended deep condensate well	•	all lineweights .2 mm $\frac{\psi}{4.0 \text{ mm}}$	
19.5.81	Plugged and abandoned deep condensate well	Ø	all lineweights .2 mm	

		UNAL NESCUNCES	,	ı
REF NO	DESCRIPTION	SYMBOL	CARTOGRAPHIC SPECIFICATIONS*	NOTES ON USAGE*
	19.5—Oil and gas fields; wells d	rilled for hydrocarbon exp	ploration or exploitation (continued	
19.5.82	Gas and condensate show	☆	all lineweights diameter 1.5 mm .2 mm	May also be shown in other colors.
19.5.83	Gas and condensate well (nonspecific depth)	\$#+	all lineweights .2 mm	
19.5.84	Suspended gas and condensate well (nonspecific depth)	*	all lineweights .2 mm	
19.5.85	Plugged and abandoned gas and condensate well (nonspecific depth)	<i>¾</i>	all lineweights .2 mm	
19.5.86	Shallow gas and condensate well	≯	₩.	Use if both shallow and deep gas and condensate wells are shown on
19.5.87	Suspended shallow gas and condensate well	*	*	map. May also be shown in other colors.
19.5.88	Plugged and abandoned shallow gas and condensate well	※	*	
19.5.89	Deep gas and condensate well	⊕	inner circle diameter 1.5 mm, outer circle diameter 2.75 mm	
19.5.90	Suspended deep gas and condensate well	•	all lineweights .2 mm ↓ 4.0 mm ↑	
19.5.91	Plugged and abandoned deep gas and condensate well	∞	all lineweights .2 mm 4.0 mm	
19.5.92	Gas storage well (nonspecific depth)	*	1.75 mm	May also be shown in other colors.
19.5.93	Plugged and abandoned gas storage well (nonspecific depth)	*	lineweight 2 mm	
19.5.94	Shallow gas storage well	*	*	Use if both shallow and deep gas storage wells are shown on map.
19.5.95	Plugged and abandoned shallow gas storage well	*	*	May also be shown in other colors.
19.5.96	Deep gas storage well	•	lineweight .2 mm outer circle diameter 2.75 mm	
19.5.97	Plugged and abandoned deep gas storage well	®	all lineweights .2 mm	
19.5.98	Observation well for gas-storage field (nonspecific depth)	ū	diameter 1.5 mm ∴ all lineweights .725 mm → ← .2 mm	May also be shown in other colors.
19.5.99	Plugged and abandoned observation well for gas- storage field [nonspecific depth]	Ø	all lineweights .2 mm	
19.5.100	Shallow observation well for gas-storage field	ū	Ω	Use if both shallow and deep observation wells are shown on map.
19.5.101	Plugged and abandoned shallow observation well for gas-storage field	Ø	ø	May also be shown in other colors.
19.5.102	Deep observation well for gas-storage field	©	all lineweights .2 mm O outer circle diameter 2.75 mm	
19.5.103	Plugged and abandoned deep observation well for gas-storage field	Ø	all lineweights .2 mm	