

HYDROGEN SULFIED (H2S)

(Last Update—May 2023)

(This Section Pertains to Areas Classified as H2S Present and H2S Unknown.)

Definitions:1. <u>H2S present</u>: means that drilling, logging, coring, testing, or producing operations have confirmed the presence of H2S in

2.	concentrations and volumes that could potentially result in atmospheric concentrations and volumes that could potentially result in atmospheric concentrations are means the designation of a zone or geological formation has been confirmed.	oncentrations of 20 ppm or more of H ₂ S.
H-100	IS A COPY OF THE APPROVED H2S CONTINGENCY PLAN AVAILABL BEING FOLLOWED?	E IN THE FIELD AREA, AND IS THAT PLAN
	Authority: 30 CFR 250.490(f)	Enforcement Actions: W/S
H-101	ARE AT LEAST TWO SAFE BRIEFING AREAS ESTABLISHED?	
	Authority: 30 CFR 250.490(f)(6)	Enforcement Actions: S
H-102	ARE ALL PERSONNEL TRAINED ON THE HAZARDS OF H2S AND OF INSTRUCTED IN THE PROVISIONS FOR PERSONNEL SAFETY CONTA	
	Authority: 30 CFR 250.490(g)(4)(i) 30 CFR 250.490(j)(11)(iii)	Enforcement Actions: C
Н-103	ARE ALL PERSONNEL INSTRUCTED IN THE PROPER USE OF SAFETY	Y EQUIPMENT WHICH THEY MAY BE
	REQUIRED TO USE?	
	Authority: 30 CFR 250.490(g)(4)(ii)	Enforcement Actions: C

H-104		IIPMENT, BRIEFING AREAS, WARN	OCATION OF PROTECTIVE-BREATHING EQUIPMENT, H2S DETECTORS NT, BRIEFING AREAS, WARNING SYSTEMS, EVACUATION THE PREVAILING WINDS?		
	Authority: 30 CFR 250.490(g)(4)(ii	ii)	Enforcement Actions:	С	
H-105	ARE ALL PERSONNEL TRAINED AN CONCERNING BEARDS, SPECTACL				
	Authority: 30 CFR 250.490(g)(4)(i	v)	Enforcement Actions :	C	
II 106	IC CAFFTY INFORMATION DROMIN	NENTLY POSTED ON THE EASILITY			
H-106	IS SAFETY INFORMATION PROMIN Authority: 30 CFR 250.490(g)(5)	NENTLY POSTED ON THE FACILITY?	Enforcement Actions:	W	
	<u></u>		<u> </u>	•	
H-107	IS SAFETY INFORMATION PROMIN	NENTLY POSTED ON VESSELS SERV	ING THE FACILITY?		
	Authority: 30 CFR 250.490(g)(5)		Enforcement Actions :	W	
H-108	DO ALL OPERATORS AND CONTRA AT THE FACILITY AND AGAIN WITH				
	Authority: 30 CFR 250.490(g)(1)(Enforcement Actions:		
	30 CFR 250.490(g)(1)(
I-109	DOES EACH PERSON PARTICIPATE PERIOD?	EIN A DRILL DURING NORMAL DU	TY HOURS AT LEAST ON	CE EVERY 7-DAY	
	Authority: 30 CFR 250.490(h)(1)(i	i)	Enforcement Actions:	W/C	

111	ARE RECORDS OF ATTENDANCE FOR TRAINING MAINTAINED AT THE FACILITY OR DOES THE EMPLOYEE CARRY A TRAINING COMPLETION CARD?			
	<u>Authority</u> :	30 CFR 250.490(g)(2)(i) 30 CFR 250.490(g)(2)(ii)	Enforcement Actions: W	
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I-113		AID KIT, OF APPROPRIATE SIZE AND CON EL ON THE FACILITY?	TENT, READILY AVAILABLE FOR THE NUMBER OF	
	Authority:	30 CFR 250.490(k)(3)(i)	Enforcement Actions: W	
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I-114	PERSONNE	EL ON BOARD, NOT TO EXCEED THREE, O	IANNED FACILITIES AND A NUMBER EQUAL TO THE N NORMALLY UNMANNED FACILITIES (COMPLETE WITH EN BOTTLES) AND ARE THESE AVAILABLE ON THE	
	<u>Authority</u> :	30 CFR 250.490(k)(1)(v)	Enforcement Actions: C	
-115	IS THERE A	.T LEAST ONE LITTER OR AN EQUIVALENT	DEVICE ON THE FACILITY AND READILY AVAILABLE FOR	
	USE? <u>Authority</u> :	30 CFR 250.490(k)(3)(ii)	Enforcement Actions: W/C	
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-117		IRECTION EQUIPMENT INSTALLED IN LOC DIATE VICINITY OF THE FACILITY?	CATIONS VISIBLE AT ALL TIMES TO INDIVIDUALS ON OR IN	
	<u>Authority</u> :	30 CFR 250.490(i)(1)	Enforcement Actions: S	
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			ALL TIMES ON FACILITIES WITH WELLS CAPABLE OF	
-118	_	ATIONAL DANGER SIGNS DISPLAYED AT A IG H2S GAS IN CONCENTRATIONS OF 20 I	PPM OR MORE?	

H-120	DOES THE FACILITY HAVE AN H2S-DETECTION AND H2S-MONITORING SYSTEMS WHICH ARE CAPABLE OF SENSING A MINIMUM OF 10 PPM H2S, ACTIVATES AUDIBLE AND VISUAL ALARMS WHEN THE ATMOSPHERIC CONCENTRATION REACHES 20 PPM, AND ARE LOCATED AT THE BELL NIPPLE, MUD RETURN LINE RECEIVER TANK (POSSUM BELLY), PIPE TRIP TANK, SHALE SHAKER, WELL-CONTROL FLUID PIT AREA, DRILLER'S STATION, LIVING QUARTERS, AND OTHER AREAS WHERE H2S MIGHT ACCUMULATE?			
	Authority: 30 CFR 250.490(j)(1)(i) 30 CFR 250.490(j)(2)	Enforcement Actions: S		
H-121	ARE SENSORS LOCATED IN ROOMS, BUILDINGS, DEC OTHERWISE COVERED BY 30 CFR 250.490(j)?	K AREAS, OR LOW-LAYING DECK AREAS NOT		
	Authority: 30 CFR 250.490(j)(5)(i)	Enforcement Actions: S		
H-122	IS AT LEAST ONE SENSOR INSTALLED PER 400 SQUAR (OR AS OTHERWISE APPROVED BY THE DISTRICT MA	RE FEET OF DECK AREA OR FRACTIONAL PART THEREOF NAGER)?		
	Authority: 30 CFR 250.490(j)(5)(i)	Enforcement Actions: S		
H-123	IS A SENSOR LOCATED IN BUILDINGS WHERE PERSON Authority: 30 CFR 250.490(j)(5)(ii)	NNEL HAVE THEIR LIVING QUARTERS? Enforcement Actions: S		
Н-124	IS ONE SENSOR LOCATED WITHIN 10 FEET OF EACH V PUMP (OR AS OTHERWISE APPROVED BY THE DISTRI			
	Authority: 30 CFR 250.490(j)(5)(iii) 30 CFR 250.490(j)(5)(vii)	Enforcement Actions: C		
H-125	IF ONE SENSOR IS USED TO COVER MULTIPLE PIECES MORE THAN 10 FEET FROM THE SENSOR (OR AS OTH	S OF EQUIPMENT, IS EACH PIECE OF EQUIPMENT NO HERWISE APPROVED BY THE DISTRICT MANAGER)?		
	Authority: 30 CFR 250.490(j)(5)(iv) 30 CFR 250.490(j)(5)(vii)	Enforcement Actions: C		

	THE DISTRICTMANAGER)?	
	Authority: 30 CFR 250.490(j)(6)(ii)	Enforcement Actions: C
127	ARE PORTABLE H2S DETECTORS CAPABLE OF DETECT AVAILABLE FOR USE BY ALL PERSONNEL? Authority: 30 CFR 250.490(k)(1)(i)	ING 10 PPM CONCENTRATIONS OF H2S GAS IN AIR AND Enforcement Actions: W
128	ARE PRESSURE-DEMAND TYPE RESPIRATORS WITH HO 15 MINUTES IMMEDIATELY AVAILABLE AND EASILY ACCONFORMANCE WITH ANSI Z88.2? Authority: 30 CFR 250.490(j)(13)(i) 30 CFR 250.490(j)(13)(ii)	OSELINE CAPABILITY AND BREATHING TIME OF AT LEAST CESSIBLE TO ALL PERSONNEL ON THE FACILITY IN Enforcement Actions: S
	30 CFR 250.490(j)(13)(v)	
29	ARE AT LEAST TWO VOICE TRANSMISSION DEVICES, AVAILABLE FOR USE BY DESIGNATED PERSONNEL? Authority: 30 CFR 250.490(j)(13)(iii)	WHICH CAN BE USED WHILE WEARING A RESPIRATOR, Enforcement Actions: W
	AVAILABLE FOR USE BY DESIGNATED PERSONNEL?	Enforcement Actions: W
131	AVAILABLE FOR USE BY DESIGNATED PERSONNEL? Authority: 30 CFR 250.490(j)(13)(iii) IS EACH BREATHING-AIR BOTTLE LABELED AS CONTA Authority: 30 CFR 250.490(j)(13)(vi)	Enforcement Actions: W SINING BREATHING-QUALITY AIR FOR HUMAN USE?

H-133	FOR AUTHORIZED FLIGHTS DURING H2S ALERTS, ARE HELICOPTER FLIGHTS TO AND FROM THE FACILITY LIMITED TO THE CONDITIONS SPECIFIED IN THE H2S CONTINGENCY PLAN?			
	Authority: 30 CFR 250.490(j)(13)(viii)	Enforcement Actions: C	
H-134	DURING AUTHORIZED H2S A	ALERT FLIGHTS, DO THE FL	IGHT CREW AND PASSENGERS USE PRESSURE-D	EMAND
	Authority: 30 CFR 250.490(j)(13)(viii)	Enforcement Actions: C	
H-135	ARE ALL MEMBERS OF THE EQUIPMENT MADE AVAILA		THE USE OF THE PARTICULAR TYPE(S) OF RESPI IGHTS?	RATOR
	Authority: 30 CFR 250.490		Enforcement Actions: C	
H-136	AS APPROPRIATE TO THE P	ARTICULAR OPERATION(S), (PRODUCTION, DRILLING, WELL-	
			HEREOF), IS A SYSTEM OF BREATHING-AIR FACILITY AND IN THE BRIEFING AREAS?	
	Authority: 30 CFR 250.490(Enforcement Actions: S	
H-137	IS A CASCADE AIR-BOTTLE S	SYSTEM PROVIDED FOR TH	E BREATHING-AIR MANIFOLDS AND TO REFILL	
	INDIVIDUAL PROTECTIVE-B			
	Authority: 30 CFR 250.490(j)(13)(ix)	Enforcement Actions: S	
H-138			BY A HIGH-PRESSURE COMPRESSOR SUITABLE I ESSOR SUCTION LOCATED IN AN UNCONTAMINA	
	Authority: 30 CFR 250.490(j)(13)(ix)	Enforcement Actions: S	

H-140	ARE RETRIEVAL ROPES WITH SAFETY HARNESSES AVAILABLE TO RETRIEVE INCAPACITATED PERSONNEL FROM CONTAMINATED AREAS?			
	Authority: 30 CFR 250.490(k)(1)(ii)	Enforcement Actions: W		
H-141	ARE CHALKBOARDS AND/OR NOTE PADS AVAILABLE RIG FLOOR, SHALE-SHAKER AREA, THE CEMENT-PUM PROCESSING EQUIPMENT AREA, GAS COMPRESSOR A			
	Authority: 30 CFR 250.490(k)(1)(iii)	Enforcement Actions: W		
H-142	ARE BULL HORNS AND FLASHING LIGHTS AVAILABLE?			
	Authority: 30 CFR 250.490(k)(1)(iv)	Enforcement Actions: S		
H-143	ARE AUDIBLE ALARMS AND DISPLAY FLAGS OR FLASI WHEN ATMOSPHERIC CONCENTRATIONS OF H2S REA BEING ILLUMINATED AT NIGHT AND UNDER CONDITION	ACH 20 PPM AND ARE SIGNS AND FLAGS CAPABLE OF		
	Authority: 30 CFR 250.490(i)(2)(ii) 30 CFR 250.490(i)(5) 30 CFR 250.490(i)(7)(i)	Enforcement Actions: S		
H-144	ARE ALL VENTILATION DEVICES EXPLOSION-PROOF A ACCUMULATE?	ND SITUATED IN AREAS WHERE H2S OR SO2 MAY		
	Authority: 30 CFR 250.490(k)(2)(i) 30 CFR 250.490(k)(2)(ii)	Enforcement Actions: C/S		
	50 CFR 250.450(k)(2)(II)			
				
H-145	ARE MOVABLE, MULTI-DIRECTIONAL VENTILATION D AWAY FROM WORKING PERSONNEL PROVIDED IN W	EVICES, CAPABLE OF DISPERSING H2S OR SO2 VAPORS ORK AREAS?		
	Authority: 30 CFR 250.490(k)(2)(iii)	Enforcement Actions: C		

H-146	IF WATER-BASED WELL-CONTROL FLUIDS ARE USED, AND IF H2S IS DETECTED BY AIR SENSORS, HAS THE GARRETT-GAS-TRAIN TEST OR COMPARABLE TEST TECHNIQUES FOR SOLUBLE SULFIDES BEEN CONDUCTED?			
	<u>Authority</u> :	30 CFR 250.490(m)(2) 30 CFR 250.490(m)(3)	Enforcement Actions: W	
H-147	ADE CUEFIC	VENT OLIANTITIES OF ADDITIVES (SCAN	ENGERS - IL AND CORROCION CONTROL MAINTA	INFD ON
П-14/	THE FACILIT		ENGERS, pH, AND CORROSION CONTROL) MAINTA	INEDON
	Authority:	30 CFR 250.490(m)(4)	Enforcement Actions: S	
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H-148	WHEN H2S SYSTEM?	IS DETECTED, IS DRILLING SUSPENDED	UNTIL SCAVENGER IS CIRCULATED THROUGHOUT	THE
	Authority:	30 CFR 250.490(m)(4)(i)	Enforcement Actions: S	
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H-149	IS THE pH L	EVEL OF THE WATER-BASED WELL-CON	ITROL FLUIDS MAINTAINED AT A MINIMUM OF 10.	0?
	•	30 CFR 250.490(m)(4)(ii)	Enforcement Actions: S	
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H-150		CONTROL FLUIDS CONTAINING H2S DE ND ARE THE GASSES REMOVED BURNE	GASSED AT THE OPTIMUM LOCATION FOR THE PAR D IN A CLOSED FLARE SYSTEM?	TICULAR
	<u>Authority</u> :	30 CFR 250.490(m)(5) 30 CFR 250.490(q)(6)	Enforcement Actions: S	
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H-151	IS A SAFET)	/ MEETING CONDUCTED FOR ALL PERS	ONNEL WHO WILL BE ON THE FACILITY PRIOR TO V	WELL
	TESTING?			
	Authority:	30 CFR 250.490(o)(1)	Enforcement Actions: C	
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H-152	ARE ALL GASES PRODUCED DURING TESTING BURNED THROUGH A FLARE SYSTEM WHICH MEETS THE REQUIREMENTS OF 30 CFR490(o)(3)?		
	<u>Authority</u> :	30 CFR 250.490(o)(3) 30 CFR 250.490(q)(6)	Enforcement Actions: S
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H-153	ARE FLARE FEASIBLE?	LINE OUTLETS LOCATED ON THE DOWNWIND SIDE AND	AS FAR FROM THE FACILITY AS IS
	<u>Authority</u> :	30 CFR 250.490(q)(6)	Enforcement Actions: S
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H-154		RE OUTLET EQUIPPED WITH AN AUTOMATIC IGNITION S' R AN EQUIVALENT SYSTEM THAT OPERATES AS INTENDE	
	Authority:	30 CFR 250.490(q)(6)	Enforcement Actions: S
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H-155	IS AN ALTE	RNATE METHOD AVAILABLE FOR IGNITING THE FLARE?	
	<u>Authority</u> :	30 CFR 250.490(q)(6)	Enforcement Actions: W
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H-156		ENTS USED FOR H2S PRODUCTION PROCESS EQUIPMENT AR DEVICES PIPED TO THE FLARE SYSTEM?	, TANKS, RELIEF VALVES, BURST PLATES,
	Authority:	30 CFR 250.490(q)(6)	Enforcement Actions: C/S
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H-157		NTAINING H2S NOT USED FOR INSTRUMENT GAS, AND I NTOR HAVE APPROVAL FROM THE DISTRICT MANAGER?	F H2S IS BEING USED AS FUEL GAS, DOES
	<u>Authority</u> :	30 CFR 250.490(q)(9)	Enforcement Actions: S
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H-158	HAS THE DISTRICT MANAGER BEEN NOTIFIED IF PRODUCED WATER IS DISPOSED OF BY MEANS OTHER THAN SUBSURFACE INJECTION?			
	<u>Authority</u> :	30 CFR 250.490(q)(12)		Enforcement Actions: S
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H-159		EVELS CONTINUOUSLY MONITORE -WORKOVER OPERATIONS?	D IN THE WORK AREAS	DURING DRILLING, WELL-COMPLETION,
	<u>Authority</u> :	30 CFR 250.490(j)(4)		Enforcement Actions: W/S
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H-160		NDUCTING CORING OPERATIONS, EL IN THE WORK AREA AT LEAST 10		HING EQUIPMENT WORN BY ALL OF RETRIEVING THE CORE BARREL?
	<u>Authority</u> :	30 CFR 250.490(q)(1)		Enforcement Actions: W/S
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H 161	ADE ALL CO		AND MADVED FOR TH	F DDFCFNCF OF U2C2
H-161		ORES TO BE TRANSPORTED SEALED 30 CFR 250.490(q)(1)	AND MARKED FOR TH	Enforcement Actions: W/S
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H-162		ONTROL FLUID IN USE FOR LOGGIN H2S ON THE LOGGING EQUIPMEN		TIONED AND TREATED TO MINIMIZE THE
	<u>Authority</u> :	30 CFR 250.490(q)(2)		Enforcement Actions: W/S
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H-163	DURING ST PERSONNE	TRIPPING OPERATIONS, ARE DISPLEEL?	ACED WELL-CONTROL F	ELUID RETURNS MONITORED BY
	<u>Authority</u> :	30 CFR 250.490(q)(3)		Enforcement Actions: W/S
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H-164	DURING STRIPPING OPERATIONS, IS PROTECTIVE BREATHING EQUIPMENT WORN BY PERSONNEL IN THE WORK AREA WHEN THE ATMOSPHERIC CONCENTRATION OF H2S REACHES OR EXCEEDS 20 PPM OR IF THE WELL IS UNDER PRESSURE?		
	Authority: 30 CFR 250.490(q)(3)	Enforcement Actions: W/S	
I-165	IS PROTECTIVE BREATHING EQUIPMENT WORN BY PER WHEN CIRCULATING OUT A KICK AND DURING EXTEND		
	Authority: 30 CFR 250.490(q)(4)	Enforcement Actions: W/S	
I-166	IS AN EFFECTIVE MEANS OF MONITORING AND CONTR		
	BOTH THE DOWNHOLE AND SURFACE PORTIONS OF A I Authority: 30 CFR 250.490(q)(7)	Enforcement Actions: S	
I-167	ARE LUBRICATORS WHICH MAY BE EXPOSED TO FLUIDS MATERIALS?	S CONTAINING H2S MADE OF H2S-RESISTANT	
	Authority: 30 CFR 250.490(q)(8)	Enforcement Actions: W/S	
[-168	ARE METALS USED FOR SENSING LINES AND SAFETY-CO		
	BEARING FLUIDS CONSTRUCTED OF H2S CORROSION R APPROPRIATE MATERIALS SO AS TO RESIST CORROSION		
	Authority: 30 CFR 250.490(q)(10)	Enforcement Actions: W/S	
-169	ARE ALL SEALS WHICH MAY BE EXPOSED TO FLUIDS CO	NTAINING H2S MADE OF H2S-RESISTANT MATERIAL?	
	Authority: 30 CFR 250.490(q)(11)	Enforcement Actions: W/S	

H-170	DO TRAINED EMPLOYEES OR CONTRACTORS WHO ARE TRANSFERRED FROM ONE FACILITY TO ANOTHER, RECEIVE A SUPPLEMENTAL BRIEFING ON H2S EQUIPMENT AND PROCEDURES BEFORE BEGINNING DUTY?				
	Authority: 30 CFR 250.490(g)(3)(i)	Enforcement Actions: W			
H-171	DO VISITORS WHO REMAIN AT THE FACILITY FOR MO FOR EMPLOYEES AND CONTRACTORS?	RE THAN 24 HOURS RECEIVE THE TRAINING REQUIRED			
	Authority: 30 CFR 250.490(g)(3)(ii) 30 CFR 250.490(g)(4)	Enforcement Actions: W			
H-172	DO VISITORS WHO WILL DEPART THE FACILITY WITHIPROCEDURES?	N 24 HOURS RECEIVE A BRIEFING ON H2S			
	Authority: 30 CFR 250.490(g)(3)(iii)	Enforcement Actions: W			
H-173	ARE RECORDS OF ATTENDANCE IN DRILLS FOR DRILLI OPERATIONS MAINTAINED AT THE FACILITY UNTIL OF	·			
	Authority: 30 CFR 250.490(h)(2)(i)	Enforcement Actions: W			
H-174	ARE RECORDS OF ATTENDANCE IN DRILLS FOR PRODUTHE NEAREST FIELD OFFICE FOR 1 YEAR?	JCTION OPERATIONS MAINTAINED AT THE FACILITY OR			
	Authority: 30 CFR 250.490(h)(2)(ii)	Enforcement Actions: W			
H-175	ARE PORTABLE OR STRATEGICALLY PLACED FIXED SO PPM OF SO2?	2 DEVICES CAPABLE OF DETECTING A MINIMUM OF 2			
	Authority: 30 CFR 250.490(j)(11)(i)	Enforcement Actions: W/S			

ARE PORTAB	TABLE OR FIXED SO2 ELECTRONIC SENSING DEVICES CALIBRATED EVERY 3 MONTHS?	
Authority: 30	OCFR 250.490(j)(11)(iv)	Enforcement Actions: W/S
		AS NEEDED? <u>Enforcement Actions</u> : W
OF THE COM	PRESSOR?	AT LEAST TWO H2S SENSORS LOCATED WITHIN 10 FEET
Authority: 30	J CFR 250.490(j)(5)(iV)	Enforcement Actions: C
(VERTICALLY)	ABOVE THE POTENTIAL H2S ZONE?	ETECTORS INITIATED BEFORE THE BIT IS 1,500 FEET Enforcement Actions: W
	·	E ALL H2S DETECTORS TESTED AT LEAST EVERY 14 DAYS? Enforcement Actions: C
	ASSIFIED AS H2S PRESENT, ARE ALL H2S	DETECTORS TESTED ONCE EVERY 24 HOURS WHEN TESTING, WELL TESTING, WELL COMPLETION
	ARE SPECTAC Authority: 36 ARE COMPRE OF THE COMI Authority: 36 WHEN DRILLI (VERTICALLY) Authority: 36	OF THE COMPRESSOR? Authority: 30 CFR 250.490(j)(5)(iv) WHEN DRILLING, ARE FUNCTIONAL TESTS OF H2S DE (VERTICALLY) ABOVE THE POTENTIAL H2S ZONE? Authority: 30 CFR 250.490(j)(7)(i)