WEEKLY PROGRESS UPDATE FOR JULY 19-JULY 23, 1999

EPA REGION I ADMINISTRATIVE ORDER SDWA I-97-1019 MASSACHUSETTS MILITARY RESERVATION TRAINING RANGE AND IMPACT AREA

The following summary of progress is for the period for July 19 to July 23, 1999.

1. SUMMARY OF ACTIONS TAKEN

Drilling continued on MW-63b (LRWS-12 far field monitoring well) and achieved a total depth of 325 feet below ground surface at the end of the week. Drilling commenced on MW-60 (KD Range primary target) and achieved a total depth of 200 feet below ground. Samples collected during the reporting period are summarized in Table 1. Groundwater samples were collected from an IRP well (03MW0040C) representative of the "A well" former water supply well, and from a second monitoring well at the PAVE PAW Radar Station. Profile samples were collected from MW-60 and MW-63b. Soil samples were collected from MW-60.

The Guard, EPA, and MADEP had a meeting on July 22 to discuss technical issues, including the following:

- USGS was called at the start of the meeting to ask if they wanted to be conferenced in. In response to a question from EPA, USGS indicated that the subregional model was built and needed some minor tweaking to work out an inconsistency with the regional model. USGS also requested that 5-foot screens be used as much as possible as additional wells are installed, to allow more age dating.
- The Guard will file notifications to MADEP concerning the MCP Reportable Concentration exceedances that have been discussed. It remains to be determined if the Guard will file for an exclusion from notification for the pesticide detections, as allowed by MADEP based on use for the intended purpose.
- A 1-page handout was provided with explosive results for DP-11. Picric Acid was detected in the first interval, and PDA spectra indicate this is a false positive. A 1-page handout was provided that indicates that the filtration process for the drive point samples appeared to introduce more quantifiable peaks into the samples, possibly due to the filtration cartridges. There was a discussion of the method of reporting the drive point samples. Ogden will include these results in a Tech Memo that addresses the J-3 Wetland sampling results. Ogden or the Guard will check with IRP on how/if they are reporting results to Camp Good News, and follow a similar procedure.
- Ogden suggested that a sampling plan for the KD Range (additional soil samples and monitoring wells) be prepared after the Tech Memo describing existing sample results for the KD Range is complete. This TM and sampling plan are expected to be complete by late August. The agencies indicated that this schedule is OK. EPA asked about the progress on contracting for the new Demo 1 wells. This activity is not complete and the Guard will check on the reason for the delay.
- A 2-page handout was provided with preliminary profile results for MW-63. Based on the trace level of TCE detected in the last sample, it was agreed to screen a well at this depth, which is a few feet into bedrock. Depths of other wells will be discussed Monday 7/26 when remaining profile data are available.

- Regarding the Bourne far field wells, EPA indicated that six wells should be installed here rather than the four wells proposed by the Guard. The Guard requested that EPA formalize this position in a letter.
- There was a discussion of the far field well locations for Sandwich. It was agreed to position one far field well cluster in the location where the Sandwich supply well ZOCs converge on the MMR. The depth(s) will be determined based on the depths of the ZOCs. Other monitoring wells may be appropriate if there are potential source areas along Greenway Road, such as the P Range. The requirement for other wells will be addressed in the process of workplan approvals for the Phase II (b) ranges, or for the J Ranges (part of Phase II (a) studies).
- The Guard indicated that a letter will be provided shortly that proposes the far field location for the J Well. The location will be downgradient from the Training Ranges, at the north end of the ZOC.
- EPA discussed their preliminary comments on the Draft Sampling Plan for UXO Detonation (7/15/99), which include: address the additional rounds discovered; include discrete samples (center of each crater) for metals, VOC, and SVOC; include a recon after detonation to look for explosive fragments, and if present then additional sampling; include air sampling; request pre- and post-detonation soil sampling. EPA also had the same comments (except air sampling) on the plan for sampling the munitions debris pile.
- Ogden provided a letter to the agencies proposing an approach for modeling contaminant transport
 through the unsaturated zone and in groundwater. Ogden has not been successful yet in contacting
 the EPA modeler regarding the KD Range calculations.
- Ogden indicated that the Response Plan for the latest RDX detections in the Impact Area is still being prepared. This document was a lower priority on the schedule than some others, but it is expected to be complete in 2-3 weeks, in accordance with the schedule requirements in the Phase II (a) Workplan.
- There was a brief discussion of the CHPPM report on the Grand Oaks soil sampling. PDA spectra were not measured for these samples, and therefore are not available for confirmation of the detections. The Guard will develop a plan for confirmatory samples.

2. SUMMARY OF DATA RECEIVED

Preliminary non-validated detections of explosive and volatile organic compounds (VOCs) are summarized in Table 2 for samples collected during the preceding three-week period. The status of the explosive detections with respect to confirmation using Photo Diode Array (PDA) spectra is also indicated in this table. Where the PDA status is "YES" in Table 2, the detected compound has been confirmed to be present in the sample. Where the status is "NO", the identification of an explosive has been confirmed to be a false positive. Where the status is blank, PDA has not yet been used to evaluate the detection, or PDA is not applicable because the analyte is a VOC.

Some of the detections in Table 2 were discussed in last week's progress report. The range of sample dates included in Table 2 overlaps from week-to-week due to the method of reporting and extracting these data. New detections in Table 2 that were not discussed in last week's report include:

• Field Quality Control (QC) samples associated with MW-63b had detections of acetone and methyl ethyl ketone (MEK). Profile samples from MW-63b had chloroform detected in all 16 samples, chloromethane in eight samples, MEK in three samples, and toluene and acetone in two samples each.

Nitroglycerin and 4-nitrotoluene were detected in one profile sample from MW-63b but PDA spectra are not available at this time.

• Profile samples from MW-60 had acetone and toluene detected in all 11 samples, MEK detected in eight samples, styrene detected in three samples, methylene chloride detected in two samples, and xylenes detected in two samples.

3. DELIVERABLES SUBMITTED

Deliverables submitted during the reporting period include the following:

Weekly Progress Report (7/5/99 – 7/9/99)	July 23, 1999
Weekly Progress Report (7/12/99 – 7/16/99)	July 23, 1999
Draft Training Area Workplan	July 23, 1999

4. SCHEDULED ACTIONS

Scheduled actions for the week of July 26 include completion of drilling of MW-63b and MW-60, commence drilling of MW-61 (KD Range secondary target) and MW-80 (Bourne water supply far field monitoring well), sampling water supply wells at the J-3 Range, and sampling the Sandwich water supply wells.

TABLE 1 SAMPLING PROGRESS 7/19-7/23

OGDEN_ID	LOCID OR WELL ID	DATE SAMPLED	SAMPLE TYPE	SBD	SED
03MW00400CT	FIELDQC	7/21/1999	FIELDQC	0	0
03MW0040CE	FIELDQC	7/22/1999	FIELDQC	0	0
ASPWELLT	ASPWELLT	7/20/1999	FIELDQC	0	0
G60MKE	FIELDQC	7/23/1999	FIELDQC	0	0
G60MKT	FIELDQC	7/23/1999	FIELDQC	0	0
G63MBE	FIELDQC	7/20/1999	FIELDQC	0	0
G63MET	FIELDQC	7/20/1999	FIELDQC	0	0
G63MJE	FIELDQC	7/21/1999	FIELDQC	0	0
G63MMT	FIELDQC	7/21/1999	FIELDQC	0	0
G63MPE	FIELDQC	7/22/1999	FIELDQC	0	0
PPAWSMW-2E	FIELDQC	7/22/1999	FIELDQC	0	0
PPAWSMW-2T	FIELDQC	7/22/1999	FIELDQC	0	0
S60MAE	FIELDQC	7/20/1999	FIELDQC	0	0
S60MIE	FIELDQC	7/21/1999	FIELDQC	0	0
03MW0040C	03MW0040C	7/21/1999	GROUNDWATER	0	10
PPAWSMW-2	PPAWSMW-2	7/22/1999	GROUNDWATER	85	105
DW6321	GAC WATER	7/21/1999	IDW	0	0
DW6321A	GAC WATER	7/21/1999	IDW	0	0
G60MAA	MW-60	7/21/1999	PROFILE	100	100
G60MBA	MW-60	7/22/1999	PROFILE	110	110
G60MCA	MW-60	7/22/1999	PROFILE	120	120
G60MDA	MW-60	7/22/1999	PROFILE	130	130
G60MEA	MW-60	7/22/1999	PROFILE	140	140
G60MFA	MW-60	7/22/1999	PROFILE	150	150
G60MGA	MW-60	7/22/1999	PROFILE	160	160
G60MHA	MW-60	7/22/1999	PROFILE	170	170
G60MHD	MW-60	7/22/1999	PROFILE	0	0
G60MIA	MW-60	7/22/1999	PROFILE	180	180
G60MJA	MW-60	7/22/1999	PROFILE	190	190
G60MKA	MW-60	7/23/1999	PROFILE	200	200
G63MAA	MW-63	7/20/1999	PROFILE	150	155
G63MBA	MW-63	7/20/1999	PROFILE	160	165
G63MCA	MW-63	7/20/1999	PROFILE	170	175
G63MDA	MW-63	7/20/1999	PROFILE	180	185
G63MEA	MW-63	7/20/1999	PROFILE	190	195
G63MFA	MW-63	7/20/1999	PROFILE	200	205
G63MGA	MW-63	7/20/1999	PROFILE	210	215
G63MGD	MW-63	7/20/1999	PROFILE	210	215
G63MHA	MW-63	7/21/1999	PROFILE	220	225
G63MIA	MW-63	7/21/1999	PROFILE	230	235

Profiling methods include: Volatiles and Explosives

Groundwater methods include: Volatiles, Semivolatiles, Explosives, Pesticides, Herbicides, Metals, and Wet Chemistry Other Sample Types methods are variable

SBD = Sample Begin Depth, measured in feet bgs for profile and soil boring, and feet below water table for groundwater SED = Sample End Depth, measured in feet bgs for profile and soil boring, and feet below water table for groundwater

TABLE 1 SAMPLING PROGRESS 7/19-7/23

OGDEN_ID	LOCID OR WELL ID	DATE SAMPLED	SAMPLE TYPE	SBD	SED
G63MJA	MW-63	7/21/1999	PROFILE	240	245
G63MKA	MW-63	7/21/1999	PROFILE	250	255
G63MLA	MW-63	7/21/1999	PROFILE	260	265
G63MMA	MW-63	7/21/1999	PROFILE	270	275
G63MNA	MW-63	7/21/1999	PROFILE	280	285
G63MOA	MW-63	7/22/1999	PROFILE	290	295
G63MPA	MW-63	7/22/1999	PROFILE	300	305
S60MAA	MW-60	7/20/1999	SOIL BORING	15	19
S60MBA	MW-60	7/20/1999	SOIL BORING	20	22
S60MCA	MW-60	7/20/1999	SOIL BORING	30	32
S60MDA	MW-60	7/20/1999	SOIL BORING	40	44
S60MEA	MW-60	7/21/1999	SOIL BORING	50	52
S60MFA	MW-60	7/21/1999	SOIL BORING	60	62
S60MGA	MW-60	7/21/1999	SOIL BORING	70	72
S60MHA	MW-60	7/21/1999	SOIL BORING	80	84
S60MIA	MW-60	7/21/1999	SOIL BORING	90	92

OGDEN_ID	LOCID OR WELL ID	DATE SAMPLED	SAMP_TYPE	SBD	SED	LAB_METHOD	OGDEN_ANALYTE	PDA
G63DRE	FIELDQC	7/9/1999	FIELDQC	0	0	OC21V	ACETONE	
G63DXE	FIELDQC	7/14/1999	FIELDQC	0	0	8330N	1,3-DINITROBENZENE	
G63DXE	FIELDQC	7/14/1999	FIELDQC	0	0	OC21V	ACETONE	
G63DXE	FIELDQC	7/14/1999	FIELDQC	0	0	OC21V	METHYL ETHYL KETONE (2-BUTANONE)	
G63DXE	FIELDQC	7/14/1999	FIELDQC	0	0	OC21V	TOLUENE	
G63MBE	FIELDQC	7/20/1999	FIELDQC	0	0	OC21V	ACETONE	
G63MBE	FIELDQC	7/20/1999	FIELDQC	0	0	OC21V	METHYL ETHYL KETONE (2-BUTANONE)	
G63MJE	FIELDQC	7/21/1999	FIELDQC	0	0	OC21V	ACETONE	
G63MJE	FIELDQC	7/21/1999	FIELDQC	0	0	OC21V	METHYL ETHYL KETONE (2-BUTANONE)	
G63MPE	FIELDQC	7/22/1999	FIELDQC	0	0	OC21V	ACETONE	
G63MPE	FIELDQC	7/22/1999	FIELDQC	0	0	OC21V	METHYL ETHYL KETONE (2-BUTANONE)	
OT-Y016801F	FIELDQC	7/6/1999	FIELDQC	0	0	8330N	1,3,5-TRINITROBENZENE	
OT-Y016801F	FIELDQC	7/6/1999	FIELDQC	0	0	8330N	PICRIC ACID	
W73SSA	MW-73	7/9/1999	GROUNDWATE	0	10	8330N	4-AMINO-2,6-DINITROTOLUENE	
W73SSA	MW-73	7/9/1999	GROUNDWATE	0	10	8330N	HEXAHYDRO-1,3,5-TRINITRO-1,3,5-TRIAZI	
W73SSA	MW-73	7/9/1999	GROUNDWATE	0	10	8330N	OCTAHYDRO-1,3,5,7-TETRANITRO-1,3,5,7	
G60MAA	MW-60	7/21/1999	PROFILE	100	100	OC21V	ACETONE	
G60MAA	MW-60	7/21/1999	PROFILE	100	100	OC21V	METHYL ETHYL KETONE (2-BUTANONE)	
G60MAA	MW-60	7/21/1999	PROFILE	100	100	OC21V	TOLUENE	
G60MBA	MW-60	7/22/1999	PROFILE	110	110	OC21V	ACETONE	
G60MBA	MW-60	7/22/1999	PROFILE	110	110	OC21V	METHYL ETHYL KETONE (2-BUTANONE)	
G60MBA	MW-60	7/22/1999	PROFILE	110	110	OC21V	METHYLENE CHLORIDE	
G60MBA	MW-60	7/22/1999	PROFILE	110	110	OC21V	STYRENE	
G60MBA	MW-60	7/22/1999	PROFILE	110	110	OC21V	TOLUENE	
G60MCA	MW-60	7/22/1999	PROFILE	120	120	OC21V	ACETONE	
G60MCA	MW-60	7/22/1999	PROFILE	120	120	OC21V	METHYLENE CHLORIDE	

DATA REPORTED REFLECT CURRENT DATABASE FOR SAMPLES COLLECTED IN SPECIFIED TIMEFRAME. NOT ALL RESULTS ARE COMPLETE. SBD = SAMPLE COLLECTION BEGIN DEPTH (FEET BGS FOR SOILS AND PROFILE, FEET BELOW WATER TABLE FOR GROUNDWATER) SED = SAMPLE COLLECTION END DEPTH (FEET BGS FOR SOILS AND PROFILE, FEET BELOW WATER TABLE FOR GROUNDWATER) PDA/YES = Photo Diode Array, Detect Confirmed

PDA/NO = Photo Diode Array, Detect Not Confirmed

OGDEN_ID	LOCID OR WELL ID	DATE SAMPLED	SAMP_TYPE	SBD	SED	LAB_METHOD	OGDEN_ANALYTE	PDA
G60MCA	MW-60	7/22/1999	PROFILE	120	120	OC21V	TOLUENE	
G60MDA	MW-60	7/22/1999	PROFILE	130	130	OC21V	ACETONE	
G60MDA	MW-60	7/22/1999	PROFILE	130	130	OC21V	METHYL ETHYL KETONE (2-BUTANONE)	
G60MDA	MW-60	7/22/1999	PROFILE	130	130	OC21V	TOLUENE	
G60MEA	MW-60	7/22/1999	PROFILE	140	140	OC21V	ACETONE	
G60MEA	MW-60	7/22/1999	PROFILE	140	140	OC21V	CHLOROFORM	
G60MEA	MW-60	7/22/1999	PROFILE	140	140	OC21V	METHYL ETHYL KETONE (2-BUTANONE)	
G60MEA	MW-60	7/22/1999	PROFILE	140	140	OC21V	TOLUENE	
G60MFA	MW-60	7/22/1999	PROFILE	150	150	OC21V	ACETONE	
G60MFA	MW-60	7/22/1999	PROFILE	150	150	OC21V	CHLOROFORM	
G60MFA	MW-60	7/22/1999	PROFILE	150	150	OC21V	TOLUENE	
G60MGA	MW-60	7/22/1999	PROFILE	160	160	OC21V	ACETONE	
G60MGA	MW-60	7/22/1999	PROFILE	160	160	OC21V	CHLOROFORM	
G60MGA	MW-60	7/22/1999	PROFILE	160	160	OC21V	TOLUENE	
G60MHA	MW-60	7/22/1999	PROFILE	170	170	OC21V	ACETONE	
G60MHA	MW-60	7/22/1999	PROFILE	170	170	OC21V	METHYL ETHYL KETONE (2-BUTANONE)	
G60MHA	MW-60	7/22/1999	PROFILE	170	170	OC21V	TOLUENE	
G60MIA	MW-60	7/22/1999	PROFILE	180	180	OC21V	ACETONE	
G60MIA	MW-60	7/22/1999	PROFILE	180	180	OC21V	CHLOROFORM	
G60MIA	MW-60	7/22/1999	PROFILE	180	180	OC21V	METHYL ETHYL KETONE (2-BUTANONE)	
G60MIA	MW-60	7/22/1999	PROFILE	180	180	OC21V	STYRENE	
G60MIA	MW-60	7/22/1999	PROFILE	180	180	OC21V	TOLUENE	
G60MIA	MW-60	7/22/1999	PROFILE	180	180	OC21V	XYLENES, TOTAL	
G60MJA	MW-60	7/22/1999	PROFILE	190	190	OC21V	ACETONE	
G60MJA	MW-60	7/22/1999	PROFILE	190	190	OC21V	CHLOROFORM	
G60MJA	MW-60	7/22/1999	PROFILE	190	190	OC21V	METHYL ETHYL KETONE (2-BUTANONE)	

DATA REPORTED REFLECT CURRENT DATABASE FOR SAMPLES COLLECTED IN SPECIFIED TIMEFRAME. NOT ALL RESULTS ARE COMPLETE. SBD = SAMPLE COLLECTION BEGIN DEPTH (FEET BGS FOR SOILS AND PROFILE, FEET BELOW WATER TABLE FOR GROUNDWATER) SED = SAMPLE COLLECTION END DEPTH (FEET BGS FOR SOILS AND PROFILE, FEET BELOW WATER TABLE FOR GROUNDWATER) PDA/YES = Photo Diode Array, Detect Confirmed PDA/NO = Photo Diode Array, Detect Not Confirmed

OGDEN_ID	LOCID OR WELL ID	DATE SAMPLED	SAMP_TYPE	SBD	SED	LAB_METHOD	OGDEN_ANALYTE	PDA
G60MJA	MW-60	7/22/1999	PROFILE	190	190	OC21V	TOLUENE	
G60MKA	MW-60	7/23/1999	PROFILE	200	200	OC21V	ACETONE	
G60MKA	MW-60	7/23/1999	PROFILE	200	200	OC21V	CHLOROFORM	
G60MKA	MW-60	7/23/1999	PROFILE	200	200	OC21V	METHYL ETHYL KETONE (2-BUTANONE)	
G60MKA	MW-60	7/23/1999	PROFILE	200	200	OC21V	STYRENE	
G60MKA	MW-60	7/23/1999	PROFILE	200	200	OC21V	TOLUENE	
G60MKA	MW-60	7/23/1999	PROFILE	200	200	OC21V	XYLENES, TOTAL	
G63DUA	MW-63	7/13/1999	PROFILE	350	355	OC21V	CHLOROFORM	
G63DVA	MW-63	7/13/1999	PROFILE	360	365	OC21V	CHLOROFORM	
G63DXA	MW-63	7/14/1999	PROFILE	380	385	OC21V	TRICHLOROETHYLENE (TCE)	
G63MAA	MW-63	7/20/1999	PROFILE	150	155	OC21V	ACETONE	
G63MAA	MW-63	7/20/1999	PROFILE	150	155	OC21V	CHLOROFORM	
G63MBA	MW-63	7/20/1999	PROFILE	160	165	8330N	4-NITROTOLUENE	
G63MBA	MW-63	7/20/1999	PROFILE	160	165	8330N	NITROGLYCERIN	
G63MBA	MW-63	7/20/1999	PROFILE	160	165	OC21V	ACETONE	
G63MBA	MW-63	7/20/1999	PROFILE	160	165	OC21V	CHLOROFORM	
G63MBA	MW-63	7/20/1999	PROFILE	160	165	OC21V	METHYL ETHYL KETONE (2-BUTANONE)	
G63MCA	MW-63	7/20/1999	PROFILE	170	175	OC21V	CHLOROFORM	
G63MDA	MW-63	7/20/1999	PROFILE	180	185	OC21V	CHLOROFORM	
G63MDA	MW-63	7/20/1999	PROFILE	180	185	OC21V	METHYL ETHYL KETONE (2-BUTANONE)	
G63MDA	MW-63	7/20/1999	PROFILE	180	185	OC21V	TOLUENE	
G63MEA	MW-63	7/20/1999	PROFILE	190	195	OC21V	CHLOROFORM	
G63MEA	MW-63	7/20/1999	PROFILE	190	195	OC21V	METHYL ETHYL KETONE (2-BUTANONE)	
G63MEA	MW-63	7/20/1999	PROFILE	190	195	OC21V	TOLUENE	
G63MFA	MW-63	7/20/1999	PROFILE	200	205	OC21V	CHLOROFORM	
G63MGA	MW-63	7/20/1999	PROFILE	210	215	OC21V	CHLOROFORM	

DATA REPORTED REFLECT CURRENT DATABASE FOR SAMPLES COLLECTED IN SPECIFIED TIMEFRAME. NOT ALL RESULTS ARE COMPLETE. SBD = SAMPLE COLLECTION BEGIN DEPTH (FEET BGS FOR SOILS AND PROFILE, FEET BELOW WATER TABLE FOR GROUNDWATER) SED = SAMPLE COLLECTION END DEPTH (FEET BGS FOR SOILS AND PROFILE, FEET BELOW WATER TABLE FOR GROUNDWATER) PDA/YES = Photo Diode Array, Detect Confirmed PDA/NO = Photo Diode Array, Detect Not Confirmed

OGDEN_ID	LOCID OR WELL ID	DATE SAMPLED	SAMP_TYPE	SBD	SED	LAB_METHOD	OGDEN_ANALYTE	PDA
G63MGD	MW-63	7/20/1999	PROFILE	210	215	OC21V	CHLOROFORM	
G63MHA	MW-63	7/21/1999	PROFILE	220	225	OC21V	CHLOROFORM	
G63MHA	MW-63	7/21/1999	PROFILE	220	225	OC21V	CHLOROMETHANE	
G63MIA	MW-63	7/21/1999	PROFILE	230	235	OC21V	CHLOROFORM	
G63MIA	MW-63	7/21/1999	PROFILE	230	235	OC21V	CHLOROMETHANE	
G63MJA	MW-63	7/21/1999	PROFILE	240	245	OC21V	CHLOROFORM	
G63MJA	MW-63	7/21/1999	PROFILE	240	245	OC21V	CHLOROMETHANE	
G63MKA	MW-63	7/21/1999	PROFILE	250	255	OC21V	CHLOROFORM	
G63MKA	MW-63	7/21/1999	PROFILE	250	255	OC21V	CHLOROMETHANE	
G63MLA	MW-63	7/21/1999	PROFILE	260	265	OC21V	CHLOROFORM	
G63MLA	MW-63	7/21/1999	PROFILE	260	265	OC21V	CHLOROMETHANE	
G63MMA	MW-63	7/21/1999	PROFILE	270	275	OC21V	CHLOROFORM	
G63MMA	MW-63	7/21/1999	PROFILE	270	275	OC21V	CHLOROMETHANE	
G63MNA	MW-63	7/21/1999	PROFILE	280	285	OC21V	CHLOROFORM	
G63MNA	MW-63	7/21/1999	PROFILE	280	285	OC21V	CHLOROMETHANE	
G63MOA	MW-63	7/22/1999	PROFILE	290	295	OC21V	CHLOROFORM	
G63MPA	MW-63	7/22/1999	PROFILE	300	305	OC21V	CHLOROFORM	
G63MPA	MW-63	7/22/1999	PROFILE	300	305	OC21V	CHLOROMETHANE	
OT-Y016301	DP-11	7/6/1999	PROFILE	27	32	8330N	PICRIC ACID	NO
OT-Y016301F	DP-11	7/6/1999	PROFILE	27	32	8330N	PICRIC ACID	NO